UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
Alaska Operations Office
Room 537, Federal Building
222 W. 7th Avenue, #19
Anchorage, Alaska 99513-7588

December 13, 2006

MEMORANDUM

SUBJECT: Asbestos NESHAP Compliance Inspection Report for BP Exploration (Alaska) Inc. Prudhoe Bay, Alaska

FROM: John Pavitt
Alaska Air Coordinator

TO: Michele Wright
Asbestos NESHAP Program Manager (OCE-127)

Attached to this cover memo, please find my asbestos NESHAP compliance inspection report for an emergency renovation project at the BP Exploration (Alaska) Inc. (BPXA) Transit Pipeline in Prudhoe Bay, Alaska. The renovation work was performed by abatement contractors CCI and Penco Pacific Environmental, with supervision by contractor VECO.

The project involves the abatement of a Category II asbestos-containing material (mastic material) which was discovered by BPXA in the process of testing pipelines for corrosion. BPXA submitted an initial notification to EPA on August 25, 2006 which has been revised five times as of the date of this report. However, as described in my attached report, pipeline renovation work which aggressively disturbed the mastic material began in March 2006.

I inspected this renovation project on September 25-27, 2006. The inspection included observing the pipeline structure, collecting documents, observing abatement in process, interviewing facility representatives and abatement contractors, observing a temporary waste storage area and a local landfill.

Please call me at (907) 271-3688 if you have any questions about this report.

ASBESTOS NESHAP COMPLIANCE INSPECTION REPORT

DATE OF INSPECTION		September 25-27, 2006
FACILITY		BP Exploration (Alaska) Inc. Various Transit Oil Pipelines Prudhoe Bay, AK
	Mailing Address:	P.O. Box 196612 Anchorage, AK 99519
	Contacts:	Mike Taylor and Laura Dickie Industrial Hygienists (907) 659-4470
		Richard Gremley (907) 659-4490
		Koreen Burrow, Environmental Compliance (907) 659-5999
ASBESTOS DEMO/RENO CONTRACTORS		
Overall Coordination:		VECO 949 E. 36th Ave. Anchorage, AK 99508 (907) 762-1193
	Contacts:	Sam Baker
		Kevin Kercher
		Dave Stillwell
		Gavin Murray
Abatemment:		CCI, Inc. 800 Cordova St., Suite 102 Anchorage, AK 99501 (907) 258-5755
	Contact:	Nick Kuhlmann

	PENCO Pacific Environmental 6000 A. Street Anchorage, AK 99518 (907) 562-5420
Contact:	Richard Wilson
OTHER CONTRACTORS:[a]	
Bulk Sampling/Air Monitoring	White Environmental 731 I Street Anchorage, AK 99501 (907) 258-8661
Contact:	Matt White
Industrial Hygiene/Safety	Environ 214 Carnegie Center Princeton, NJ 08540-6284 (570) 443-9422
Contact:	Christopher Zwiebel
EPA INSPECTOR	John Pavitt Alaska Operations Office 222 W. 7th Ave., Box #19 Anchorage, AK 99513 (907) 271-5083 Fax 271-3424
SCHEDULED DATES ASBESTOS REMOVAL[b]	8/22/06 – 12/31/06
SCHEDULED DATES RENOVATION	Same

WERE ASBESTOS SAMPLES COLLECTED FOR THIS INSPECTION? [c] _Yes X No

INTRODUCTION

The facility is a set of pipelines located operated by BP Exploration (Alaska) Inc. (BPXA) in Prudhoe Bay, Alaska. Ownership of the pipelines is shared by BPXA and other oil

[a] Although White Environmental and Environ are listed as abatement contractors in the 9/11/06 notification to EPA Region 10, I clarified with facility representatives that they are in fact performing other types of duties.
[b] As described in the fifth revised notification from BPXA, submitted to EPA on 10/23/06.
[c] Extensive samples were collected between 8/21/06 and the date of this inspection by BPXA, their contractors White Environmental and VECO and by a contractor on behalf of EPA Region 10, Emergency Response Program. Samples consistently showed that mastic material on various pipelines contain 5-10 % Chrysotile asbestos.

companies doing business on the Alaska North Slope. The pipelines are referred to as "transit pipelines" in the industry because they carry processed crude oil from various locations to Pump Station 1 of the Trans Alaska Pipeline System.

This inspection was conducted in response to news accounts of a mastic, asbestos containing material (ACM) being discovered by BPXA in the course of a major project to check Prudhoe Bay transit pipelines for corrosion. (See Attachments No.'s 1 - 3.) The news articles described the corrosion testing project being suddenly halted by BPXA because of the surprise of finding ACM, and that prior to its discovery, the work practice had been to aggressively remove mastic ACM with mechanical grinding.

BPXA originally submitted an Emergency Renovation asbestos notification to EPA Region 10 on August 25, 2006, and revised it five times as of the date of this report. (See Attachments No.'s 4-9.) The original notice stated that the project involved the removal of foam insulation from various sections of pipeline in Prudhoe Bay. It stated that the foam insulation was thinly coated on the inner surface with black mastic material which contained 5-10 % asbestos. The notice estimated that 234,872 square feet of Category II non-friable material would be removed during this project. Revision # five of the notification was changed to state that the quantity of ACM to be removed is approximately 33,000 linear feet (which is the appropriate unit of measurement when discussing asbestos on pipes), or 6.25 miles of pipeline. The fifth revision also states that the project started on August 22, 2006 and would continue though the end of the year.

As described in the above notifications, BPXA's stated intent is to carefully remove the insulation materials from the transit pipelines in order to prepare them for corrosion testing, *without* rendering the mastic ACM friable. The above notices do not address renovation activities which occurred prior to August 22, 2006. Please see Attachment No. 11 for a timeline of events for the pipeline cleaning project, starting August 20, 2006, provided by BPXA.

THE INSPECTION

DAY ONE: 9/25/06

I began my inspection by meeting Mike Taylor, Industrial Hygienist for BPXA at my hotel in Deadhorse, Alaska. I had asked Mr. Taylor to arrange a meeting of the contractors working on the pipeline abatement project. Mr. Taylor met me at my hotel shortly after 5:00 p.m. and escorted me through the Prudhoe Bay field security gate to the BP Base Operation Camp (BOC) for the meeting.

Along the way, we stopped along one of the transit lines that Mr. Taylor said was a good example of what they were working on. The time was 5:30 p.m. and the weather was clear and cool in the low 40's, but not windy. He said the location was Transit Line 3-1, meaning the pipeline that runs from Gathering Center 3 (GC-3) to Gathering Center 1 (GC-1). This specific length of pipeline runs behind the BOC. (See Attachment No. 12, Map.) Mr. Taylor pointed out that the pipe was marked with sequential numbers, (e.g., 6100, 6101, 6102, etc.) which indicated the distance from the nearest building. In this case, he said, "6100" meant that spot on the

pipeline was 6100 feet from GC-3. Mr. Taylor said this location was a caribou crossing, where the pipe normally is buried beneath the ground. He said the gravel was excavated in this location to reveal the transit line. He said oil flowing through transit lines is not supposed to have a lot of water in them because the oil has been processed, and that's why people didn't think it had a high risk of corrosion. Mr. Taylor pointed out that this section of pipeline had already been cleaned of mastic material. He also pointed out a weld seam on the transit pipeline, which he said is harder to clean and so they use a grinder connected to a HEPA (high efficiency) filter vacuum to remove the mastic from those areas.

Entry Meeting

At about 6:10 p.m. I started an inspection entry meeting in a conference room at the BOC with representatives from BP (Richard Gremley, Koreen Burrow and Mike Taylor), and contractor VECO (Sam Baker, Kevin Kercher, Dave Stilwell and Gavin Murray). I presented my credentials and handed out my business card. I explained I was there to conduct an asbestos NESHAP compliance inspection after reading accounts in the newspapers about asbestos being found on the transit pipelines. I said I requested this meeting to get clear on roles and responsibilities for BPXA and the five contractors described in the asbestos notices submitted to EPA. I said I needed to be clear on who was managing the abatement project and who was doing what tasks. I pulled out a copy of a revised asbestos notification form dated 9/11/06 (See Attachment No. 7) and pointed to the list of contractors listed there:

- CCI, Inc.
- VECO
- White Environmental
- Environ
- Penco Pacific Environmental

Representatives from VECO said that they were the primary contractor and other contractors report to them, and had hired qualified people to do the work. They also said that they had people working on the site since before the asbestos testing was performed on August 21. They said that VECO assumed a lead role in the project after the asbestos was found on the pipeline. I said that the first notice EPA received on 8/25/06 stated contractor CCI, Inc. was the abatement contractor. (Attachment No. 4.) The VECO representatives said it was quickly determined that VECO would take the lead because of their greater experience in field-wide management, although they also said that they had not previously managed an asbestos abatement project.

Representatives from VECO and BPXA described the roles of the other contractors. They said CCI has about 30 people working on this project. VECO put them through 40 hour asbestos training. They put a liner under the pipe and do hands-on abatement and have on-site supervisors. VECO still provides overall supervision.

They said White Environmental serves as the analytical lab (with their lab in Anchorage, AK), but also has been on the job site to collect bulk samples and perform air monitoring for the first couple of weeks. They said Matt White of White Environmental also helped them identify suspect ACM.

They said Environ is a consulting firm for Industrial Hygiene and is used for "issues that come up" especially issues raised by employees, and do not do abatement. They said Environ does consulting for BP in a variety of locations across the country.

They said Penco Pacific Environmental has 17 people on the project, serving as a labor supply. They are removing insulation and mastic ACM. These workers have been through 40 hour training, they said. They said Penco does abatement work primarily in the Anchorage area and are working nights in Prudhoe Bay.

We then discussed the history of the pipeline project. I asked how BPXA discovered asbestos on the Prudhoe Bay pipelines. Mr. Taylor of BPXA said that foam insulation was being removed from transit pipelines and stockpiled. He said an abatement project manager from CCI named Nick Kuhlmann, working on an unrelated project on Annex 1, BOC, spotted suspect ACM on the insulation in a dumpster. He said Mr. Kuhlmann notified Laura Dickie, an I.H. for BPXA (who is Mr. Taylor's alternate). He said Ms. Dickie pulled the first sample from the dumpster and about 10 more subsequent samples which came back positive for asbestos. I asked if the pipe insulation was being discarded up until that time. Mr. Taylor said yes. He said Jeff Carpenter, an I.H. for BPXA in the Anchorage office, created a timeline of events, including the original contract specifications for the construction of the transit pipelines which specified "no asbestos" in insulation materials. I said I would like a copy of the timeline for my inspection report, and Ms. Burrow of BPXA said she would make sure I got a copy. (See Attachment No. 11.)

Mr. Taylor said that the mastic ACM product is called "no corrode" and is no longer made with asbestos. I asked if BPXA conducted an asbestos survey prior to removing the insulation from the transit pipelines. He said none was done prior to the project starting in March 2006. He said he managed an asbestos survey of BPXA's facilities in 1995 and they assumed at the time that there was no asbestos in the pipe insulation. He said they thought it was all just foam.

I asked if BPXA submitted an asbestos notice form to EPA prior to starting the project in March 2006. Mr. Taylor said they had not. I said the asbestos NESHAP regulations require that the facility owner or operator to submit a 10 day advance notice so EPA. I said the regulations also require a thorough survey for asbestos in advance. Mr. Taylor said he understood that for demolitions, a notice is always required, even if no asbestos is present. I said that was correct. He said that for renovations, a notice is only required if there is a regulated quantity of asbestos present. I said that was correct.

We discussed the scope of the project. I said that my reading of the notice was that about 235,000 feet (more than 40 miles!) of pipeline with a mastic ACM coating would be disturbed. The facility representatives corrected me on this point. They said that the notice gives an estimate of square feet, not linear feet. I looked again at Section VII of the notice and saw that indeed the unit of measurement was square feet. I said that I had not noticed that and said that the notice should be revised to give that information in linear feet, as is usually the case when discussing pipes. The facility representatives said they thought less than five miles of pipeline

would be abated during this project. Ms. Burrow said she would let the staff in the Anchorage office know to revise the notice for that. (See Attachment No. 8, Asbestos Notification, Fourth Revision, providing an estimate of approximately 30,000 linear feet (5.7 miles) of pipes w/ Category II ACM mastic material to be abated.)

Describing the overall project, the facility representatives said that in the Western Operating Area (WOA) of Prudhoe Bay they were conducting corrosion testing of sections of transit pipeline, and that required them to clean the outside surfaces for testing. I requested a map showing where pipeline insulation has been removed. BPXA representative Richard Gremley showed me a color aerial photograph (actually two photographs on one large sheet of paper) of the section of transit pipeline being worked on between GC-1 and GC-3, and then from GC-3 to Alyeska Pipeline Pump Station 1. He said he would get me a copy. (See Attachment No. 13).

The representatives said that in the Eastern Operating Area (EOA), the pipelines had mostly been re-insulated by ARCO (now ConocoPhillips Alaska) years ago. They said the only original insulation remaining in the EOA was found under road crossings, at caribou crossings, and on concrete anchor blocks supporting the pipelines. They said that "residual" ACM is found where "polycam tape" (4-6 inches wide, black tape) is wrapped around the transit pipes. They said that when workers remove the tape, they are finding mastic in some locations. (See Attachment No. 5. The notification was revised to include "asbestos-removal work to oil pipelines in the Eastern Operating Area (EOA) of the Prudhoe Bay Field".)

I asked if BPXA submits an Annual Asbestos Notification for small jobs throughout the year. Mr. Taylor said they do submit an Annual Notification. I asked for a copy of the most recent one, for year 2006 (the current year). He said he thought their 2006 "blanket notification" was mailed to the Alaska Department of Labor, Occupational Safety and Health (OSH). I explained that the notice needs to be submitted to EPA R10, and that the AK OSH office used to accept these notices for EPA, but it had been several years since they've stopped doing that. Mr. Taylor said he would have a copy sent to me. (See Attachment No. 14, Annual Notification, 2006.)

I asked about the waste transporters they were using for the transit pipeline project. I said the notice lists three transporters: ICE Services, CCI, and Carlile. I asked which of these waste haulers would be bringing Regulated Asbestos Containing Material (RACM) to a landfill. The facility representatives said that Carlile would transport the RACM wastes to Fairbanks, and the other two haulers would not be handling RACM. Mr. Taylor said that there was some "ground" wastes that "will definitely" be RACM. Also, he said, scraped mastic material is being treated as RACM. He said the only material not being treated as RACM is the foam insulation with residue mastic. He said that's going to the Deadhorse landfill. I said I wanted to see foam insulation waste to evaluate if is friable. I said EPA requires that friable material only go to an approved landfill.

Planning ahead for the next day's inspection, I said I wanted to see:

1. Foam insulation during an active removal;
2. Waste at the Deadhorse landfill to see foam there in preparation for disposal and

assess its condition;

3. Waste storage of RACM for wastes to be transported to Fairbanks;
4. Work areas along the transit pipelines where foam insulation was already removed to check for any debris that is remaining on the ground. The facility representatives said they have already had contractor CCI do clean up in these areas.

Records Requested

I asked for a Material Data Safety Sheet (MSDS) for the mastic product which was the source of the asbestos on the transit pipelines, and for the new, similar product being used on the pipeline. (See Attachment No. 22.)

Before ending the meeting, I was provided with the following records:

1. Health and Safety Plan. Insulation Waste Disposal. Updated 9/2/06.
2. Procedure and PPE Hazard Assessment for Removal of Insulating Materials and Asbestos-Containing Sealant from Oil Transit Lines Outdoors.
3. Initial Exposure Assessment for Transit Line Insulation Waste Disposal. 9/4/06.
4. Initial Exposure Assessment for Transit Line Mastic Removal by Scraping. 9/11/06.

The meeting ended at about 7:45 p.m.

DAY TWO: 9/26/06

At 9:00 a.m. I met with VECO representatives Gavin Murray and Dennis Fair. I told them that for that day, I wanted to observe one or more active worksites to check on asbestos abatement work practices. Mr. Fair headed off to another job site, and Mr. Murray and I drove together to the BP BOC to meet with BPXA representative Koreen Burrow, who said she had some updates on the transit pipeline abatement project. She had phoned Larry Rayburn, the BPXA Waste Coordinator in Prudhoe Bay, and asked him to make the asbestos RACM waste storage site available. Ms. Burrow said that Mr. Rayburn wanted contractor CCI present when I looked at the wastes, because CCI handles the wastes. She said that Mr. Rayburn would also have the asbestos Waste Shipment Records (WSR's) available for me. She also said that Richard Cox is the primary contact with the North Slope Borough landfill. She called Mr. Cox and found out the landfill was closed on Tuesdays and Saturdays, and asked if I was willing to postpone visiting that site until tomorrow. I said I could accommodate their schedule. She said she had also spoke with Anne-Christine Aycaguer in the BPXA Anchorage office to let her know to revise the asbestos notification, as we had discussed the night before.

Field Tour

I noted the following highlights from my tour of asbestos abatement activities in the Prudhoe Bay area.

Crude Oil Topping Unit (COTU), Western Operating Area) WOA

BPXA operates a COTU facility, a simplified refinery which produces diesel fuel and naphtha for use on the Alaska North Slope. According to Title V permit No. 265TVP01, the COTU facility has been in operation since 1969, making it part of the original infrastructure in

Prudhoe Bay when the field was put into production. The COTU is located adjacent to (on the same gravel pad as) PBOC and Main Construction Camp (MCC) and all three facilities are covered under one Title V air quality operating permit. We stopped here to observe a portion of a pipeline which BPXA was preparing for a physical bypass, to reconnect to available crude oil pipelines. In other words, the COTU had been shut down since a spill was discovered in August, and BPXA was tapping into another pipeline to bring crude oil to the COTU, so it could resume producing petroleum products. I told the BPXA and VECO representatives I wanted to see the area of the pipeline which had been modified to see if there was any mastic ACM in the area which might have been disturbed. I said I wanted to see how much of the line had been cut to connect it to a bypass line.

At about 10:00 a.m., we met with COTU representative Jeanette Kornfield, who was supervising the tie-in process. Ms. Burrow introduced me and I explained I was there to conduct an asbestos inspection of the pipeline. Ms. Kornfield said the COTU had been shut down since August 7th, but they hoped to have it back on line that day. Ms. Kornfield said the flow line that goes from Flow Station (FS) 1 to FS 2 had sprung a leak and the field was shut in. Now, she said, they have put in "jumpers" from FS 2 to the Endicott Field line. She said that allows crude oil to come to the COTU. She said that today they would be pressurizing the tie-in pipeline and no one will be allowed in the area as a safety precaution. I asked if I could take a quick look at the tie in, to see if there were any asbestos concerns there, prior to the pressurizing. Ms. Kornfield said yes, we could go observe the work area.

At about 10:10 a.m., we arrived at the COTU tie-in area. I saw several pick up trucks parked along this area. Ms. Burrow told me that approximately 50 feet of pipeline was cut to make the tie in. Mr. Murry said that their subcontractor, White Environmental, had sampled this spot to confirm it was negative for asbestos before the pipeline cut was made. He showed me a lab test report prepared by White Environmental Consultants on 9/5/06, showing asbestos test results for eight samples collected at the "COTU Hot Tap" area, and an additional seven samples collected at the "leak site" near GC-1. Looking at the lab report, I saw it showed the samples were collected on 8/31 and 9/1/06. The samples from the COTU hot tap area were "None Detected" for asbestos, while all the samples collected from the GC-1 area were all positive for asbestos, ranging from 4-10 % Chrysotile asbestos. (See Attachment No. 15.)

Active Abatement Near GC-1

We next went to view abatement workers removing mastic material from a length of transit pipeline close to GC-1 and stretching from GC-1 to GC-3. A sign posted designated this "Zone 1" and the speed limit was reduced to five mph. (See Attachment No. 13, Aerial Photo, which designates Zone 1.) Numbering on the pipeline indicated we were at location 2500 – 2600 feet. Someone had written on the pipeline: "ACM Removed" in one location, and "9-10-06 OK" in another. Moving a little further down the pipeline to location 2900 feet, Mr. Murray pointed out a technician conducting magnetic testing. He said this was called the "E-Matt" process, and involves taking thickness readings at the 3 o'clock and 9 o'clock positions on the pipeline. Moving down the line to the 3,000 foot location and beyond, I saw about 10-12 abatement workers in blue protective suits, white hard hats, respirators and gloves wiping the pipeline surfaces. Mr. Murray said they were using orange solvent on the wipe rags.

I asked to speak with the on site supervisor. Mr. Murray introduced me to Ian Leach, who said he was the VECO Lead for this work site. I asked who the workers were. Mr. Leach said they were VECO and CCI workers. He said they were abating about 175 linear feet of pipe that day at this work site. He said the pipe jacketing and foam insulation material was removed in advance of his crew arriving. I asked if the mastic ACM was all over the transit pipeline, or spotty. He said they were finding mastic primarily on the top surface and sides, and "very little" overall. I asked him to describe their work procedure. He said, "Spray, spray. It wipes right off." Mr. Leach gave me a copy of his 3-ring binder workbook, "Instruction for CUI project waste to be shipped to Fairbanks." The instructions in this workbook were consistent with what I had read the night before, in BPXA written procedures on handling asbestos from the pipelines.

Stepping out of our vehicle, I walked along the roadway, staying on the outside of the Asbestos Hazard barrier tape, and noted the following observations:

- Drop cloths were in place beneath the transit pipeline to catch incidental debris.
- Workers were hand-scraping with orange solvent. None were using mechanical grinders to remove mastic.
- Workers were using a high efficiency (HEPA) vacuum to collect debris.
- Workers were wearing PPE. Their gloves were black with mastic material, which suggested to me that the ACM was not dry and dusty, but rather was wet and sticky.
- The pipeline outside of the work area which had already been cleaned was warm to the touch, which explained why it was easy to wipe off the mastic material with orange solvent.
- Wastes from the work area were being placed in waste bags. The wastes looked wet and the bags were intact. The bags were already labeled with asbestos warnings.
- I saw no visible emissions from the work area.

We got back in our vehicle and drove further down the line to a section which still needed to be abated, at location 3930 – 3970 feet. I saw that the metal jacketing and foam insulation was removed, but black mastic material was still stuck on the transit pipeline. I saw that the mastic material was primarily on top of the pipeline, with some patches one or two feet in length and others as small as a quarter. I also saw mastic material adhering along pipe seams. I looked on the wet tundra beneath the pipeline. I saw standing water and grasses, but did not see any insulation debris there.

I asked Mr. Murray if VECO was starting at one end of the pipeline and continuing on down in a linear progression to the other end. He said no, the sequence was not like that. He said that the ultrasound testing and EMAT testing has been "here and there" and prioritized by where they thought corrosion was most likely, and was also affected by whether or not there was standing water beneath the pipeline, which changes the work area accessibility.

We took a lunch break and resumed the field inspection at about 1:30 p.m.

Waste Storage Area, BOC

Mr. Murray, Ms. Burrow and I went to the asbestos waste storage area located next to the Hazardous Waste Process Facility, in a small building on the gravel pad in back of the BOC. Ms. Burrow had scheduled time with BPXA Waste Coordinator Larry Rayburn. I introduced myself and explained that I was conducting an asbestos NESHAP compliance inspection of the transit pipeline abatement project. We were joined a few minutes later by two employees of contractor CCI, Mario Rodriguez and Gilbert [Last Name].

I asked Mr. Rayburn if any asbestos wastes from the pipeline project had been shipped off site for disposal. Mr. Rayburn said the last shipment of asbestos wastes went out on June 14, 2006, which pre-dated the pipeline abatement project.[d] I asked CCI representatives Mario and Gilbert what their responsibilities were. They said they collect bags of waste from the various locations in Prudhoe Bay and put it in storage. I asked to see the waste storage containers. Mario, Gilbert and the BPXA representatives and I stepped out back of the waste storage office where I was shown two wooden crates on pallets, and the pallets were placed about two feet off the ground on red metal shelving where it was safely out of the way of traffic. The crates were labeled with asbestos warnings and measured approximately 3 X 3 X 3 feet. I saw that the crates were built with thick plywood and in excellent condition, with no holes or scrapes. Mario and Gilbert said the boxes were lined with plastic. They opened a crate lid and I looked inside, where I saw plastic lining and clear plastic bags which were and twisted and sealed at the top with duct tape. The bags looked intact with no rips or tears. The outside of the two crates had hand writing on them that indicated the contents came from Annex 1,[e] GC-2, and "BP OTL" which I took to mean the BP Oil Transit Line. The hand writing also indicated the wastes included "popcorn ceiling" and "TSI." Looking at the filled, clear plastic bags, I could see what looked like small pieces of urethane foam insulation, some of which had a thin layer of black material on one edge that was consistent with what the transit pipeline insulation looked like in Mr. Taylor's office the night before. I did not open any of the waste bags, and the CCI representatives closed up the crates.

The CCI representatives then unlocked a steel connex shipping container so I could look at the waste containers stored inside. I saw three more crates inside the connex, with similar hand writing with black magic marker on its sides and asbestos warning stickers on them. The writing indicated the contents came from Pad 3 Glycol Building; PBOC; the BOC Machine Shop; GC-2 Skid 6 and GC-3 Skid 6; and "1 Bag AC PPC Class II Non-friable Transit Line 8/23/06." The crates were in excellent condition. I did not open the crates to examine the contents.

We stepped back into Mr. Rayburn's office. I reminded Mr. Rayburn that each container (each crate) is required to be labeled with the generator name and address. He asked if the address where the wastes came from could be labeled simply as "Prudhoe Bay" because the wastes were coming from a long length of pipeline. I said that would be sufficient to indicate for

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[d] As noted above in discussions on day one of this inspection, the facility was actively removing mastic ACM from transit pipelines in order to carry out corrosion testing, starting in March and continuing through August 2006. These wastes were not identified as ACM and were not shipped as such. Rather, they were transported to the North Slope Borough, Oxbow Landfill and disposed of as general construction/demolition wastes.

[e] Abatement contractor CCI submitted a notification to EPA R10 on 8/14/06 for the removal of 3,750 ft^2 of popcorn ceiling texture from BPXA's BOC, Annex 1in Prudhoe Bay.

labeling purposes. I asked Mr. Rayburn for a copy of Waste Shipment Records (WSR's) prepared to date. Mr. Rayburn showed me five WSR's, dated from 8/22/06 through 9/20/06, and which showed a total of 14 bags of nonfriable asbestos waste from the transit pipeline project. I noticed the WSR had an out of date address for EPA R10, and I gave Mr. Rayburn the information to update the WSR form he uses. (See Attachment No. 16.) Mr. Rayburn said he was just filling out the forms provided by the Fairbanks landfill as wastes came in, and would consolidate the information when he was ready to ship the wastes in a larger shipment. He said an additional 15 bags had been picked up that day and CCI would have eleven more to pick up. He said no Regulated Asbestos Containing Material (RACM) from the pipeline project had been shipped off site yet, and that they were waiting to accumulate more to ship it efficiently.

Before leaving the asbestos waste storage facility, I told Mr. Rayburn that I had a few comments for him. I said the WSR form he uses needs to be updated with the current EPA address. Mr. Rayburn corrected the form as I waited. (Attachment No. 16). I said the waste storage containers are in great shape and I would not expect them to leak. I said to not forget to put generator labels on the outside of each crate prior to shipping them off site for disposal. I thanked him for his time, and left his office at about 2:30 with Mr. Murray and Ms. Burrow.

Abatement of Transit Pipeline, Near GC-2

At about 2:45 p.m. we stopped at an asbestos abatement work site located along a transit pipeline adjacent to GC-2. I saw that workers in blue suits, respirators and white hard hats were placing plastic sheeting underneath a section of pipeline. They had put up purple "Danger Asbestos Hazard" warning tape around the work area. Mr. Murray said they would be pulling off the steel outer shell and foam insulation to prep the area for abatement of the mastic ACM from the pipe surfaces.

As I watched, workers were able to easily cut the metal bands that held on the steel jacket and remove the steel jacket outer layer. I saw the 8-10 workers use pry bars to loosen the stiff layer of foam insulation from the pipeline. The workers carefully pulled the foam insulation from the pipeline in half-round sheets, some 12-15 feet long and set them on the plastic on the ground. I looked at the pipeline surface and saw that small patches of black mastic material was still adhered to the pipeline, along with an occasional patch of orange-yellow foam insulation. I estimated that perhaps 90-99 % of the black mastic material was coming off of the pipeline along with the foam insulation. I watched the workers apply water with small water bottles (16 oz), and as they did steam arose from the pipeline's hot surface.

I walked along the outside of the designated work area and saw a HEPA vacuum stationed on top of a tarp. The vacuum host was taped at the end. Mr. Murray said that was to close the hose when the vacuum was off, and they would pull the duct tape off when they were ready to use it. After about another 15-20 minutes, I watched as the workers stepped over to the edge of the work area and began to use the HEPA vacuum to clean each other and prepare to step out of the work area.

We left this work site at about 3:30 p.m.

DAY THREE: 9/27/06

I met with Mr. Murray and Ms. Burrow at about 7:00 a.m. and headed directly with them to the North Slope Borough (NSB) Oxbow Landfill in Deadhorse. As I had informed the BPXA and VECO representatives earlier, I wanted to check on the transit pipeline insulation waste material at the landfill, and assess its condition.

Oxbow Landfill

We arrived at the landfill at about 7:30 a.m. Our contact at the landfill was Kurt Millies and Richard Cox from Ice Services, the contractor managing the landfill for the North Slope Borough. I introduced myself and told Mr. Millies that I was there to conduct an asbestos NESHAP compliance inspection, related to the transit pipeline abatement project.

I said I wanted to get a good understanding of how the foam insulation with black mastic was being handled, both at the pipeline work areas, and at the landfill. I said that the day before, I had watched the abatement workers carefully remove sections of foam insulation in large pieces, and I wanted to see if it arrived at the landfill in the same condition. Mr. Millies said that one or more trucks would be bringing in foam insulation waste that morning, but it might be an hour or more before it arrived.

We spent a few minutes talking about the history of the abatement work on the transit pipelines. I said my understanding was that that on or around August 21, BPXA sampled the black mastic material and discovered it contained asbestos, and after that they very much changed how they handled the insulation. I said there were many workers on the North Slope now trained in asbestos work practices, and in general it seemed as if they were doing a good job removing the insulation and trying to not to break it up. I said that it appeared that between March and August 2006, BPXA did not realize the insulation materials they were removing from the transit pipelines had an asbestos mastic material stuck to the surface of the insulation and sticking to the pipeline itself. I asked Mr. Millies if prior to August 21, did BPXA identify or disclose to the landfill that the pipeline insulation waste was asbestos-containing? He said, no, they did not. I asked if prior to August 21, did BPXA have asbestos Waste Shipment Records (WSR's) to accompany the waste shipments they dumped at the landfill? He said no, they did not. I asked where was the pipeline insulation waste material buried? He said that when they didn't know it contained asbestos, it was buried in Cell D. Now, he said, it was being buried in Cells A and B. (See Attachment No. 17.)

I asked Mr. Millies to explain further about how the landfill work practices have changed since BPXA alerted the landfill that the wastes contain asbestos. He said they stopped accepting foam insulation when the learned it had asbestos, and then put an addendum on the NSB landfill Operation Plan, which has been incorporated into their permit. He said they are not permitted by the State to accept Regulated Asbestos Containing Material (RACM), but he had checked with Lori Aldrich with the Alaska Department of Environmental Conservation, Solid Waste Program about whether they could accept foam insulation with mastic ACM. Mr. Millies said Ms. Aldrich told him they are permitted to accept the foam insulation with mastic if it's not friable, and further, they could blend it with other wastes, such as municipal solid waste (MSW). Mr.

Millies said that they decided to segregate the ACM wastes from other wastes, like MSW. (See Attachment No. 17.)

I asked Mr. Cox and Mr. Millies to describe how the waste loads are managed now, from start to finish. They said the waste bins are lined at the job sites. When they leave a job, they said, the bins are covered with a netting to prevent waste from flying out along the way to the landfill (that's always required in Deadhorse, they said). When they arrive at the landfill, they are charged $1,220 for scheduled loads or $1,400 for unscheduled ones. They said the trucks empty the waste just like a dump truck. I asked if they have a tracking system for ACM loads. They said yes, they fill out a form as waste loads come in, and it lists the location. They showed me the Asbestos Containing Material (ACM) Daily Log for 9/20/06 as an example, and I saw it listed eight waste loads coming in from Operator VECO, each carrying 27 yd^3 for a total of 216 yards that day. I requested a copy which they provided on the spot. (See Attachment No. 18.) I asked to see operator logs dated prior to 8/21/06. I saw that the records were labeled "Daily Material Breakdown for Ice Services" and had a number of column headings to categorize the waste as it arrived at the gate, such as "Cable Wire, Construction Debris, MSW Kitchen and Insul." It did not include a category for ACM. I saw that on half or more of the days in August, they received multiple loads of insulation waste, usually from VECO or BPXA. Some of these deliveries were designated as coming from the "Pipe Proj." On 8/24, the log entry noted for a delivery from BPXA that the load of insulation contained "Black Mastic Not Acceptable." I requested a copy of their daily operating logs for the month of August, which they copied and provided to me on the spot. They said they were closed August 1 because it was a Tuesday, so they had no record for that day. (See Attachment No. 19.)

I asked the landfill representatives if there was another landfill in the area. They said they had the only landfill in Deadhorse, and it serves the Kuparuk side of the field and Prudhoe Bay.

At about 8:30 a.m. we drove out to Cells A and B of the landfill to see where foam insulation waste material had been deposited. A yellow sign, about three feet tall was posted at the entrance to this part of the landfill, warning "Asbestos Disposal Site." I saw a pile of debris that was mostly covered with soil. The landfill had set up an orange wind fence around the pile. Within the debris, I could see sections of foam insulation which were the familiar yellow-orange on the outside and black on the inside surface. The foam insulation was poking out from the soil at the edge of the pile and was still in fairly large pieces for the most part. However, I also saw smaller pieces approximately one inch in diameter. My impression was that the foam was not pulverized or reduced to powder. I picked up a piece of foam insulation and it still had structural integrity – it did not crumble in my hand. I looked at the black mastic material and touched it with a ball point pen. The mastic material was still pliable and bent with the pressure of the pen being applied to it. I took a closer look at a section of foam insulation that was about two feet long which had black mastic on the inner surface. On one spot on the foam, I saw that the foam had separated from the mastic, leaving a 3-4 inch long strip of mastic material still attached to the foam along one edge and which was flapping in the wind. I told Ms. Burrow that the fact that the mastic was holding together and flapping in the wind was good evidence the material was not friable, and I would not expect it to generate dust.

I left the landfill at about 8:45 a.m. with Mr. Murray and Ms. Burrow for the BOC, to attend an exit meeting.

Exit Meeting

At about 9:20 a.m., I had an exit meeting with 10 representatives from BPXA (Greg Boitz, Richard Gremley and Koreen Burrow); VECO (Sam Baker, Kevin Kercher, Bethany Graves, David Stilwell, Doug Barnes, and Gavin Murray), and CCI (Ken Fitzgerald). We passed around a sign-in sheet, made copies and I placed the original in my field file.

I thanked everyone for attending, and said I had some observations I could share about the inspection. I said also that my inspection would not be complete until I wrote my report and submitted it for review in Region 10.

I said that my observations of abatement workers at two areas along transit pipelines showed me that the work was being done in accordance with the "Procedure and PPE Hazard Assessment" prepared by BPXA's Mike Taylor, I.H. I said workers were using manual methods with orange solvent to remove mastic, were placing plastic underneath the pipelines to catch any debris, were using a HEPA vacuum to clean the bags and themselves before exiting work areas, were applying water to the foam insulation as it came off, were placing wastes into bags and sealing them and were handling it carefully to avoid breaking up the material. I said all of these were good practices that would avoid releasing asbestos to the environment. I said also the workers seemed to be working well together, in the sense that they were coordinated and helping each other, which I attributed to good supervision and training.

I said the water they were applying to the foam insulation may not keep up with demand, because they were using small bottles of drinking water. I said that didn't seem practical for the long term, and I recommended they get a larger source of water to keep up with the work flow. Ms. Burrow said she understood the asbestos NESHAP regulations allow a facility to skip the use of water when the temperature is below freezing. I said that was correct, and took a few minutes to read from the regulations, @ § 61.145(c) (7). I said of course it was going to get below freezing in Prudhoe Bay in the winter, but reminded the representatives that the regulations require them to record the temperature at the beginning, middle and end of the day, and keep those records available for inspection.

I said my observations at the work sites, and at the landfill that morning had indicated to me the black mastic material was Category II nonfriable ACM, and I spent a few minutes reading from the regulations the definitions of RACM and Category II nonfriable ACM, @ § 61.141. I said that as long as the abatement workers keep handling the material in a careful way, using orange solvent to wipe it off of surfaces and handling the foam in large sections with little breakage, then I would expect the material to stay nonfriable. I said I was glad to see the foam insulation at the landfill appeared nonfriable, and described seeing a section of mastic flapping in the wind. I said that was a good indication the mastic was pliable, not friable.

I pulled out the current asbestos notice and reminded the representatives that I expected the notice to be revised again, to provide a measurement of the amount of asbestos on the

pipelines in linear feet, not square feet. (See Attachment No. 20.) Regarding Waste Shipment Records, I said that I had pointed out to Mr. Rayburn, BPXA's Waste Coordinator, that the form needed to be updated with EPA's current address, and that he had taken care of it on the spot, which was great. I said the wastes stored at the BOC were in strong, leak proof containers and in good condition.

I then discussed compliance concerns with the representatives. I said that even though things seemed to be going well now, I had concerns about how the abatement project was conducted between March and August 21, 2006. I said that based on what I had learned from my inspection, the following were potential violations of the asbestos NESHAP and would have to be reviewed further:

1. No prior notice for abatement had been submitted to EPA for work taking place from March until August. I said EPA did not receive a notice until after 8/21/06, when BPXA sampled the mastic material. I said the regulations require a 10 day advance notice of such projects. Related to this, I said that I was requesting from them an estimate of the length of pipe which was abated prior to 8/21/06. (See Attachment No. 20.)
2. I said that no survey was performed for the transit pipelines prior to 8/21/06. I said the regulations require a survey in advance of doing renovation or demolition activity.
3. No on-site supervisor was present prior to 8/21/06. I said the regulations require a trained supervisor be present whenever asbestos is being disturbed.
4. The prior work practice of grinding Category II nonfriable material such as mastic causes the material to become friable, and therefore RACM.
5. Any waste material generated from the grinding operations prior to 8/21/06 would be RACM. These wastes were disposed of at the Deadhorse landfill, which is not permitted to accept RACM wastes, and therefore that would be an improper disposal. I said the shipments of waste were not accompanied with WSR's. I said the regulations require WSR's go with the wastes when the leave the job site.
6. The workers were not using wet methods during the abatement activity (grinding) prior to 8/21/06. I said the regulations require the use of wet methods to prevent dust.
7. Leak-tight wrapping or containers were not used for disposing of wastes prior to 8/21/06. I said the regulations require the use of leak-tight wrapping or bags for disposal of wastes.

I said that was the extent of my comments for now, and that I would be working to complete my inspection report to submit to the R10 office for review. I said I hoped I wasn't too blunt with them with my comments, but I didn't want to leave without giving them an indication of potential violations. I asked if anyone had any questions about the regulations or my inspection, and they did not.

I said that I would need some additional records to complete my report. I asked for records of the initial asbestos sampling results from the samples collected on 8/21/06. I asked for records of the Asbestos Supervisor certifications for all the supervisors in the field. (See Attachment No. 20.) Ms. Burrow said she would work on getting me those records.

The exit meeting ended at 10:20 a.m. and I departed for the Deadhorse airport.

SUMMARY

The pipeline renovation project described in this report is on a large scale and involves the removal of Category II nonfriable mastic material from an estimated six or more miles (33,000 ft) during the time period covered in the notice: 8/22/06 – 12/31/06. Facility representatives expect the project will continue in 2007. The facility is using five contractors to carry out the project, as described in its notification (three for abatement, one for sampling and analysis, and one for consulting).

The inspection documented that the facility began renovation operations in March 2006 – five months before EPA received notice of the project - in response to an oil leak in transit pipelines. In the process of preparing the pipelines for corrosion testing, the facility used aggressive methods to grind or abrade Category II nonfriable mastic material off the surfaces of the pipelines. Information submitted by BPXA to me following the inspection (Attachment 20) indicates that about 7,000 feet of pipelines were abated in this manner before BPXA tested the mastic for asbestos content. The original test results for asbestos sampling conducted by BPXA on 8/21/06 has not been submitted to me, and I recommend that EPA R10 request this sampling record.

The inspection documented that following the sampling on 8/21/06, BPXA halted work that was disturbing asbestos and started training scores of workers in the five day asbestos training class for abatement workers. My observations of work practices during the inspection generally indicate workers are carefully handling the foam insulation coated with mastic ACM and are not generating visible emissions. Wastes from the project are being sorted into two groups, with RACM shipped to a landfill in Fairbanks licensed to accept it, and foam insulation coated with nonfriable mastic going to the Oxbow landfill in Deadhorse.

My observations of the mastic material which is still adhering to foam insulation indicates that the mastic is pliable, not friable and is unlikely to generate dust. However, according to statements from facility representatives, the work practices prior to 8/21/06 very likely generated dust. As described in the definition of RACM @ 40 CFR 61.141,

> "Regulated Asbestos Containing Material (RACM) means (a) Friable asbestos material, (b) Category I nonfriable ACM that has become friable, (c) Category I nonfriable ACM that will be or has been subjected to sanding, grinding, cutting, or abrading, or <u>(d) Category II nonfriable ACM that has a high probability or becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition or renovation operations regulated by this subpart."</u>

EPA guidance on Category II materials is very clear on this concept: it becomes subject to the regulations if it is handled inappropriately. In my opinion, the use of mechanical grinders to remove mastic from the pipelines will pulverize it or reduce it to powder.

In short, from March – August 21, 2006 the facility was not managing the project as an asbestos abatement project, and was not following the requirements to survey the pipelines, to notify EPA, to have a trained supervisor on site, to carefully handle the ACM to prevent the release of dust to the environment, to place the wastes in leak-tight, labeled containers and dispose of it at an approved landfill.

I recommend that EPA R10 compare the information in this report to the asbestos NESHAP regulations in the following areas to determine compliance:

61.145(a) Requirement to Conduct a Thorough Survey

The asbestos NESHAP requires that a thorough survey of the facility be performed prior to demolition or renovation activity which would disturb the asbestos. The facility and its contractors did not conduct an asbestos survey in advance of the renovation project.

61.145(b) Requirement to Submit a Notification 10 Days in Advance

The asbestos NESHAP requires an owner or operator to submit a notification to EPA 10 working days in advance, describing the project. An emergency notification may be submitted as late as the day after work starts. (61.145(a)(4)(iv) and (b) (iii)). Notification was submitted to EPA after work had been ongoing for five months, amounting to no notice.

61.145(c) (4) Requirement to place RACM which has been stripped from facility components into leak-tight containers.

Category II nonfriable material which had been pulverized or reduced to powder meets the definition of RACM. (61.141) From March through 8/21/06, the facility did not place RACM wastes in leak-tight containers. It was treated as general construction waste and driven in non-sealed containers (open trucks) to the local landfill.

61.145(c) (6) (1) Requirement to adequately wet the RACM material that has been removed or stripped, and keep it wet until safely disposed of.

The facility and its contractors did not wet the material during the renovation project and did not keep it wet until disposed of, until after 8/21/06.

61.145(c) (8) Requirement to have a Supervisor Present when RACM is Disturbed

The asbestos NESHAP requires an on-site supervisor, trained in the asbestos NESHAP be present when RACM is disturbed. The facility and its contractors did not have a supervisor present until after 8/21/06.

61.150(a) Requirement to discharge no visible emissions to the outside air during the collection, processing, packaging or transportation of any asbestos-containing waste material generated by the source.

In my opinion, it is very likely the facility created visible emissions when workers used mechanical grinders and abrasion tools to remove ACM mastic from pipeline surfaces, from March through 8/21/06. BPXA hired abatement workers to pick up loose debris from beneath the abated pipelines after testing on 8/21/06 revealed the mastic was positive 5 – 10 % Chrysotile asbestos. I recommend that EPA conduct further interviews with workers who were tasked with removing ACM mastic from the pipelines.

61.150(a)(1)(iv) and (v) Requirement to label containers or wrapped materials with asbestos warnings and the name and address of the generator.

The facility and its contractors did not label waste containers until after 8/21/06. Landfill representatives stated during my inspection the wastes that came in from this project were not identified as asbestos-containing, and were placed with other wastes in the landfill.

61.150(b) (1) Requirement to deposit asbestos-containing waste as soon as is practical at a waste disposal site operated in accordance with the provisions (of the NESHAP).

Wastes from the abatement of mastic ACM from approximately 7,000 feet of pipeline was deposited at the Oxbow Landfill in Deadhorse, Alaska between March - 8/21/06. The Oxbow Landfill is not permitted to accept RACM.

61.150(d) Requirement to maintain a waste shipment record for all asbestos-containing waste material transported off the facility site.

The facility and its contractors did not start maintaining waste shipment records until after 8/21/06. Landfill representatives stated during my inspection the wastes that came in from this project before then were not accompanied with waste shipment records.

John Pavitt 12/13/06

John Pavitt, AOO/A Date

ATTACHMENTS

1. "Asbestos problem halts Prudhoe pipeline work." Anchorage Daily News. 8/23/06.

2. "Asbestos found in corroded pipe. Prudhoe: Toxic substance found in resin; insulation removal stopped." Anchorage Daily News. 8/24/06.

3. "BP's problems intensify. Oil Producer, Alaska lose millions of dollars as processing plant fails, cutting output." Anchorage Daily News. 8/24/06.

4. Emergency Notification of Demolition and Renovation, Original. Submitted 8/25/06 by BP Exploration (Alaska) Inc. (BPXA) to EPA Region 10. The notification regards the removal of oil pipeline insulation material already taking place in Prudhoe Bay, Alaska.

5. Emergency Notification of Demolition and Renovation, Revision #1. Submitted 9/1/06 by BPXA to EPA Region 10.

6. Emergency Notification of Demolition and Renovation Revision # 2. Submitted 9/7/06 by BPXA to EPA Region 10. Includes a "Procedure and PPE Hazard Assessment for Removal of Insulating Materials and Asbestos-Containing Mastic from Oil Transit Lines Outdoors," Revision 7, dated 9/2/06.

7. Emergency Notification of Demolition and Renovation Revision # 3. Submitted 9/11/06 by BPXA to EPA Region 10.

8. Emergency Notification of Demolition and Renovation, Revision # 4. Submitted 10/16/06 by BPXA to EPA Region 10. This document was first submitted to R10 on 10/12/06, but was unsigned and was missing an attachment regarding "PPE Hazard Assessment," Revision 10, dated 10/9/06. On 10/13/06 BPXA submitted the attachment. On 10/16/06 BPXA re-submitted the notification form w/ signature.

9. Emergency Notification of Demolition and Renovation, Revision # 5. Submitted 10/23/06 by BPXA to EPA Region 10.

10. "Common Questions on the Asbestos NESHAP," EPA Region 4. Excerpt from this EPA guidance regarding Category II nonfriable material which becomes damaged.

11. "Timeline of Events Starting August 20th, 2006." Prepared by Jeff Carpenter, BPXA and provided to EPA Inspector John Pavitt during the September 25-27, 2006 compliance inspection.

12. Map, Prudhoe Bay. West, Central and East Units. Prepared by BPXA. Undated. This map is in general use on the Alaska North Slope. Highlighted areas indicate area of inspection.

ATTACHMENTS

13. Aerial photos (2), showing areas of corrosion testing and asbestos abatement between GC-1 and GC-3, and between GC-3 and Pump Station 1. Undated. Provided by BPXA.

14. Annual Notification of Demolition and Renovation for 2006. Submitted 12/20/05 by BPXA to EPA Region 10. In contrast to notices included as Attachments No. 4-9 (above), this notice is intended to cover small, unscheduled abatement activities in the Prudhoe Bay area.

15. Lab Report, White Environmental Consultants, Anchorage, Alaska. Dated 9/5/06, for samples collected on 8/31/06 in the area of the Crude Oil Topping Unit (COTU) Tie-In (Samples 83106-415-01 through 08) and on 9/1/06 near Gathering Center 1 (GC-1) (Samples 9106-415-01 through 07).

16. Waste Shipment Records (Interim Records – Not Final), prepared by BPXA, for asbestos containing waste materials collected from the transit pipeline abatement project and in storage at the BOC waste storage area. Dated 8/22/06 – 9/20/06. Signed-off by abatement contractor CCI. These wastes are being stored until a full load is ready for transport to the Fairbanks North Star Borough Landfill. This attachment also includes a blank, generic form which has been updated with EPA Region 10's correct mailing address.

17. E-mail from Kurt Millies, ICE Services to John Pavitt, EPA, dated 9/27/06. The e-mail includes an attached map of the North Slope Borough Oxbow Landfill and Addendum 7.1 to the Landfill Operation Plan, dated 9/1/06 for the handling of non-friable asbestos containing materials.

18. "Asbestos Containing Material (ACM) Daily Log," North Slope Borough Oxbow Landfill. Dated 9/20/06.

19. "Daily Material Breakdown for Ice Services," North Slope Borough Oxbow Landfill. From the month of August, 2006. This daily log does not include a category for asbestos wastes.

20. Letter from Anne-Christine Aycaguer, BPXA to John Pavitt, EPA, AOO/A, Re: Response to request for additional information on asbestos containing material removal site, Greater Prudhoe Bay, North Slope, Alaska. Dated 10/18/06. This letter includes four attachments, most of which were pulled out and included as attachments in this report for consistency. The attachments are: a revised notification dated 10/16/06 (See Attachment # 8, above); the revised procedure used to perform abatement work (See Attachment # 8, above); the names and certification records for supervisors on the project, and the timeline of events (See Attachment # 11, above).

ATTACHMENTS

21. Photo Identification Log Sheet. All inspection photos were taken by EPA inspector John Pavitt, AOO/A and were saved onto a read-only compact disc (CD-R) in accordance with Region 10 Standard Operating Procedure, rev. 1.1, and printed for this report. Note that about a half dozen photos taken were short movie clips which have not been printed for this report, but are available on the Archive Disc or can be copied onto a disc for review.

22. Material Safety Data Sheet (MSDS) for mastic materials used with foam insulation on Prudhoe Bay transit pipelines.

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Anchorage Daily News

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Asbestos problem halts Prudhoe pipeline work

By WESLEY LOY
Anchorage Daily News
(Published: August 23, 2006)

BP has yet another worry in the Prudhoe Bay oil field, this time asbestos contamination.

The oil company has halted work to strip off insulation from sections of possibly corroded pipelines after discovering that an adhesive that bonds the insulation to the steel contains asbestos, said BP spokesman Daren Beaudo.

The insulation keeps the hot oil in the above-ground pipes from thawing the permafrost.

BP needs to remove the insulation from selected spots to allow for corrosion testing with untrasonic devices in the huge oil field, which is partially shut down due to pipeline leaks.

The asbestos has stopped the insulation-stripping work, which involved perhaps 200 workers employed by Veco and other contractors.

Beaudo said the situation will be studied and workers will be better equipped and trained to avoid excessive exposure to the asbestos, a fireproofing mineral that can cause lung disease if inhaled.

However, the asbestos in the pipeline adhesive is nonfriable, which is good because that means it doesn't fly around in the air, Beaudo said.

Contact reporter Wesley Loy at wloy@adn.com or (907) 257-4590.

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Asbestos found in corroded pipe

PRUDHOE: Toxic substance found in resin; insulation removal stopped.

By WESLEY LOY
Anchorage Daily News
(Published: August 24, 2006)

State labor regulators are investigating possible asbestos exposure among workers stripping insulation off corroded pipelines in the hobbled Prudhoe Bay oil field.

Discovery of asbestos along the pipelines originally installed in the 1970s adds to field operator BP's considerable troubles in Prudhoe, the nation's largest oil field partially shut down this month because of leaks and corroded pipelines.

Use of asbestos now is largely banned because the fibrous mineral can cause lung disease or cancer if breathed in.

Since a major oil spill was discovered March 2, and particularly since BP began the emergency field shutdown Aug. 6, as many as 200 workers have swarmed over the pipelines, stripping off a thick layer of insulation to make way for testing the steel pipes for holes using sound-wave devices. The above-ground pipes are wrapped in insulation to prevent hot crude oil from thawing the permafrost.

This week, BP halted the insulation removal, as well as the sonic testing, after learning that asbestos was in the tarlike resin between the insulation and the pipe, said BP spokesman Daren Beaudo.

As many as 200 workers, employed mainly by contractors including Anchorage-based Veco Corp. and Canadian firm Acuren, had been doing the insulation stripping and corrosion testing, Beaudo said.

The workers will be idled pending an assessment of whether the asbestos presents any health risk and what measures in terms of safety equipment and training might be needed to resume the work, Beaudo said.

The asbestos problem complicates efforts to fully restore Prudhoe production, which now stands at less than half its normal output of 400,000 barrels a day, or 8 percent of total U.S. production.

BP is under orders from federal pipeline regulators to better test its pipes to make sure they're not so corroded that new holes and leaks could develop. Keeping the oil flowing depends on completing those tests.

The asbestos-infused resin is present only on pipelines in the western half of Prudhoe, Beaudo said. A different company built and ran the eastern side before BP took control of the full field in 2000, and pipelines on that side don't have the resin, he said.

The resin has an asbestos content of 5 percent to 10 percent, Beaudo said. He added that the asbestos is not friable, meaning it doesn't easily break up and fly around in the air in such a way that workers can breathe it in.

Steve Standley, acting chief of enforcement for the Alaska Occupational Safety & Health office, said

Wednesday he had assigned an officer to look into the case.

Generally, he said, employers are obliged to suspect and check for the presence of asbestos before beginning work on older structures, and the officer will be checking for a possible violation.

Nonfriable asbestos can become a hazard, he said, "if the removal of that material is aggressive enough" to disturb it, sending fibers into the air.

Workers removing insulation on the Prudhoe pipelines sometimes have to use lots of muscle power to peel off the insulation and resin and then buff the pipe to prepare for a good sonic corrosion test.

Grey Mitchell, director of the state Division of Labor Standards & Safety, said a 5 percent to 10 percent asbestos content is "pretty high." Generally, a content level of 1 percent or more constitutes an asbestos material, he said.

Federal regulations adopted by the state require employers to assess a workplace before disturbing suspected asbestos material, Mitchell said.

State investigators will seek oil-field workers who might have been exposed and ask them about the kinds of work they were doing and what exposure training they had received.

BP is working with the regulators, Beaudo said.

"We'll cooperate with any inquiries that they might have," he said.

Veco did not respond to a call seeking comment Wednesday.

Daily News reporter Wesley Loy can be reached at wloy@adn.com or 257-4590.

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Anchorage Daily News

BP's problems intensify

Oil producer, Alaska lose millions of dollars as processing plant fails, cutting output

By WESLEY LOY
Anchorage Daily News
(Published: August 24, 2006)

Prudhoe Bay was staggered again Wednesday when a major processing plant went on the blink, dropping production from the nation's largest oil field to its lowest level since the Prudhoe crisis began early this month.

The breakdown knocked out 90,000 barrels of oil production per day, driving down overall Prudhoe output to 110,000 barrels per day, said Daren Beaudo, a spokesman for field operator BP Exploration (Alaska) Inc.

Normally the field makes about 400,000 barrels per day, or 8 percent of total U.S. production.

Wednesday's trouble marks another big setback for BP, which on Aug. 6 startled petroleum markets by announcing its intent to shutter Prudhoe entirely because of oil leaks from corroded pipelines.

As it turned out, BP and federal pipeline regulators deemed some of the pipes safe to operate and BP didn't need to carry out the full shutdown, stabilizing output last week at just more than 200,000 barrels per day.

Then came Wednesday's glitch at a plant called Gathering Center 2, which separates the raw stream coming in from wells into oil, water and natural gas.

A compressor that handles the gas went down, and fixing it could take several days, Beaudo said Wednesday evening.

"It was a mechanical failure," he said. "I don't have any more detail about what caused it."

Prudhoe is one of London-based BP's top-producing global assets. BP runs it on behalf of itself and four other owners including Exxon Mobil and Conoco Phillips.

Ninety thousand barrels of oil is worth $6.3 million a day at Wednesday's closing price of $70.06 per barrel on the West Coast spot market.

The new production loss will cost the state roughly $1.5 million per day in oil taxes and royalties until pumping resumes.

For BP, Wednesday's breakdown adds new pressure to a company that surely must be feeling snakebit.

Its troubles began in early March when a leaky pipeline released an estimated 201,000 gallons of oil onto the frozen tundra. It was the largest North Slope oil spill in nearly three decades of production there, and the event attracted scrutiny from federal pipeline regulators, members of Congress and criminal investigators.

The troubles intensified after another, smaller leak prompted BP's Aug. 6 shutdown announcement.

Critics said BP neglected key pipelines at the core of the vast oil field, allowing sludge to build up inside the lines and corrosion to go unchecked. BP executives have apologized and said the corrosion caught them by surprise.

Since the partial shutdown, BP has had also to shut down a pipeline carrying 20,000 barrels of crude when the above-ground line suddenly surged and fell off its mounting rack.

And on Wednesday, BP said workers testing the insulated pipes for corrosion had to stop work due to asbestos contamination.

Daily News reporter Wesley Loy can be reached at wloy@adn.com or 257-4590.

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bp

BP Exploration (Alaska) Inc.
900 East Benson Boulevard
P.O. Box 196612
Anchorage, Alaska 99519-6612
(907) 561-5111

August 25, 2006

Sent by Fax: (206) 553-8509
Sent Certified Mail: 7003 2260 0004 1231 0605

Mr. Patrick Wallace
US Environmental Protection Agency, Region 10
1200 Sixth Avenue
Seattle, WA 98101

RE: Emergency Notification of Removal of Asbestos Containing Material

Dear Mr. Wallace,

BP Exploration (Alaska) Inc. (BPXA) is submitting an emergency notification for the removal of pipeline insulation taking place on the pipelines at the Western Operating Area (WOA) in the Prudhoe Bay field on the North Slope of Alaska.

BPXA is in the process of removing insulation from Prudhoe Bay pipelines and conducting ultrasonic testing to determine the extent of corrosion damages to the line. Work began on August 9th, 2006. During the removal, black mastic inside the urethane insulation was noticed. After analysis by Polarized Light Microscopy, it was determined that the mastic contained 5 – 10% non-friable asbestos.

This is not a scheduled abatement. The original Emergency Notification form is attached for your reference. Please note that this is an interim emergency notification – you can expect this notification to be updated next week.

If you have any questions, please contact Anne-Christine Aycaguer at (907) 564-4313.

Sincerely,

Stan Gates

Technical and Regulatory Team Lead

CC:

John Pavitt, EPA Anchorage office
Anita Frankel, EPA Region 10 Seattle
Michele Wright, EPA Region 10 Seattle
Carl Lautenberger, EPA Anchorage office
Bob Blankenburg, ADEC
Lois Aldrich, ADEC

U.S. ENVIRONMENTAL PROTECTION AGENCY - STATE OF ALASKA
NOTIFICATION OF DEMOLITION AND RENOVATION

Operator Project #	Postmark	Date Received	Notification #

I. Type of Notification (check one): ☒ Original ☐ Revised ☐ Canceled

II. Facility Description (include building name, number, and floor or room number)

Building Name: Various Western Operating Area oil transit pipelines operated by BP Exploration Alaska, Inc at Prudhoe Bay

Address: BP Exploration Alaska, Inc., PO Box 196612

City: Anchorage State: AK Zip Code: 99519 County: None

Site Location (specific): Prudhoe Bay, Alaska

Building Size (square feet): N/A # of Floors: N/a Age in Years: 29

Present Use: Transportation of processed crude oil Prior Use: None

III. Type of Operation (check one) ☐ Demo ☐ Ordered Demo ☐ Renovation ☒ **Emergency Renovation** ☐ Fire Training

IV. Is Asbestos Present? (check one): ☒ Yes ☐ No

V. Facility Information

Owner Name: BP Exploration (Alaska) Inc.

Address: PO Box 196612

City: Anchorage State: Alaska Zip Code: 99519

Contact: Mike Taylor/Laura Dickie, Industrial Hygienist Telephone (907) – 659-4470 Fax: 907-659-4467

Removal Contractor Name: CCI, Inc License #

Address: 800 Cordova St , Suite 102

City: Anchorage, State Alaska Zip Code: 99501

Contact: Nick Kuhlmann Telephone (907) 258-5755 Fax:

Other Operator (demolition/general) CCI (Deadhorse office contacts) License #

Address: Prudhoe Bay Hotel, Office A-100

City: Prudhoe Bay State Alaska Zip Code: 99734

Contact: Jon Lervig, Ken Fitzgerald Telephone (907) 659-2428 Fax: (907) 659 -2446

VI. Procedure, including analytical methods, employed to detect the presence of and to estimate the quantity of RACM and Category I and Category II non-friable ACM: This insulation removal is required for ultrasonic testing of the pipeline. While removing rigid urethane foam insulation from a 29 year-old oil transit pipeline, a hard,, black mastic on the inside of the insulation , was discovered. Most came off intact, attached to the urethane insulation sections, but some small patches of black mastic remained adhered on the piping. Samples were taken by the Prudhoe Bay industrial hygienist. Analysis by an EPA-accredited lab indicated approximately 5% to 10% asbestos content in the 1/16 to 1/8 inch thick mastic. The black mastic was determined to be non-friable.

VII. Approximate Amount of Asbestos Materials:

	RACM to be Removed	Non-friable Asbestos Material to be Removed		Non-friable Asbestos Material NOT to be Removed	
		Category I	Category II	Category I	Category II
Pipes (linear feet)	0	0	See below	0	0
Surface area of mastic (ft^2)	Some RACM might be generated as a result of removal activities of the category II non-friable asbestos, although efforts will be focused on limiting generation of RACM.	0	234,872(est.)	0	0
Facility Components (cubic feet)	0	0	0	0	0

VIII. Scheduled Dates Demolition or Renovation: Start: 8/22/2006 Complete: 9/30/2006

IX. Dates for Asbestos Removal (MM/DD/YY) Start: 8/22/2006 Complete: 9/30/2006

U.S. ENVIRONMENTAL PROTECTION AGENCY - STATE OF ALASKA
NOTIFICATION OF DEMOLITION AND RENOVATION

Days of the Week:	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Hours of Operation:	24	24	24	24	24	24	24

Complete all unshaded spaces, except demolitions which involve less than 260 linear feet, 160 square feet, or 35 cubic feet of RACM, need not complete spaces VII, XI,XII,XIII,XIV, and XV. Notifications for Emergency Demolition or Emergency Renovation must supply attachments.

X. Description of planned Demolition or Renovation work to be performed and method(s) to be employed, including demolition or renovation techniques to be used and description of affected facility components:

The work to be performed is the removal of insulation material with asbestos containing mastic attached.

Insulation bands will be cut and the sheet metal weather protection lagging will be removed, thereby freeing the insulation blocks for removal. A procedure is being developed to ensure asbestos is not released to the environment and that workers are properly protected.

XI. Description of work practices and engineering controls to be used to comply with the requirements, including asbestos removal and waste handling emission control procedures:

This work is done outdoors in an open environment.

Insulation blocks will be removed without crushing by workers with asbestos-maintenance training specific to this job.

A procedure is being developed to ensure asbestos is not released to the environment and that workers are properly protected.

The work will be monitored by an individual trained in the provisions of NESHAP (40 CFR PART 61, SUBPART M) and will be on-site during the insulation removal. The BP Prudhoe Bay Industrial Hygienist will also be on-site. Methods and controls may be adjusted as experience dictates.

XII. Waste Transporter #1

Name:	ICE Services				
Address:	Pouch 34004e				
City:	Prudhoe Bay	State:	Alaska	Zip Code:	99734
Contact:	Rich Helinski and Richard Cox	Telephone:	907-659 0114	Fax:	907 659 2454-

Waste Transporter #2

Name:	CCI, Inc.				
Address:	Prudhoe Bay Hotel, Office A100				
City:	Deadhorse	State:	Alaska	Zip Code:	99734
Contact:	John Lervig/Ken Fitzgerald	Telephone:	(907) 659-2428	Fax:	907-659 -2446

XIII. Waste Disposal

Name:	North Slope Borough landfill for category II non-friable (see contact and address below). Fairbanks North Star Borough for any RACM (contact and address: Sanduri Road, Fairbanks, Alaska, 99701, Phone: 907-459-1482, Fax: 907-4591017, Contact is Bob Jordan)				
Address:					
City:	Prudhoe Bay	State:	Alaska	Zip Code:	99734
Contact:	Rich Helinski	Telephone:	(907) 448-1516	Fax:	907-659-2454

XIV. Emergency Demolition (complete Item XIV and all other sections, only if this project is an Emergency Demo.)

1. Attach a copy of the Order to this notice.
2. Name of Authority Issuing Order: _____ Title: _____
3. Authority of Order (Citation of Code): _____
4. Date of Order (MM/DD/YY): _____ Date Ordered to Begin

XV. Emergency Renovation (See separate sheet attached)

1. Date and Hour of the Emergency: August 20, 2006
2. Description of the sudden, unexpected event:
   BPXA has been required by DOT to inspect Prudhoe Bay's 29-year old oil transit lines and conduct ultrasonic testing as necessary to determine the extent of corrosion damage to the lines. During removal of the insulation, black mastic was noticed. Most of the mastic comes off intact on the insulation blocks when they are lifted off the line, but in some locations it has adhered to the steel pipe surface. The Prudhoe Bay industrial hygienist tested the mastic for asbestos and on August 20, 2006 received results from the EPA-accredited lab that the mastic contained 5% to 10% asbestos content. This is an emergency inspection and maintenance operation, not a scheduled abatement.
3. Explanation of how the event caused unsafe conditions or equipment damage or an unreasonable financial burden.

XVI. Description of procedures to be followed in the event that unexpected RACM is found or non-friable ACM becomes crumbled, pulverized or reduced to powder.

A procedure is being developed to ensure asbestos is not released to the environment and that workers are properly protected.

XVII. **I certify that an individual trained in the provisions of NESHAP (40 CFR PART 61, SUBPART M) will be on-site during the Demolition or Renovation and evidence that the required training has been accomplished by this person will be available during normal business hours.**

Signature of Owner/Operator	Date	Type or Print Name and Title
Stan F Gates	8/25/06	STAN F GATES

XVIII. **I acknowledge the existence of laws prohibiting the submission of false or misleading statements and I certify that facts contained in this notification are true, accurate, and complete.**

Signature of Owner/Operator	Date	Type or Print Name and Title
Stan F Gates	8/25/06	STAN F. GATES

bp

Revision #1
BP AOO/A

BP Exploration (Alaska) Inc
900 East Benson Boulevard
PO Box 196612
Anchorage, Alaska 99519-6612
(907) 561-5111

CERTIFIED MAIL # 7003 2260 0004 1231 0636

September 1, 2006

Mr. Patrick Wallace
US Environmental Protection Agency Region 10
1200 Sixth Avenue
Seattle, WA 98101

Re: Revision to Emergency Notification of Removal of Asbestos Containing Material

Dear Mr. Wallace:

BP Exploration (Alaska) Inc. (BPXA) is submitting a revision to our original emergency notification sent on August 25, 2006, for the removal of asbestos-containing insulation coating from oil pipelines in the Prudhoe Bay Field.

This revision to the original form is to provide details on how the work will be performed (methodology and PPE). In addition, this revision expands the notification of emergency asbestos-removal work to oil pipelines in the Eastern Operating Area (EOA) of the Prudhoe Bay Field that may contain asbestos in the mastic originally applied to the inside of the insulation on the pipeline. Insulation needs to be removed on EOA pipelines in order to UT the transit line and to install bypasses. The surface area of mastic to be removed in EOA is not sufficient to significantly change our original estimate on the amount of asbestos containing material to be removed. This work is essential to BPXA's efforts to get production from the Prudhoe Bay Field back on-line.

BPXA has finalized the procedure to be used for removal of insulation and mastic adhering to oil pipelines. This procedure has been developed with feedback from Mr. Patrick Wheat at the Alaska Occupational Safety and Health Administration, and is subject to change based on work and environmental considerations. Attached are the revised Emergency Notification Form and the mastic and insulation removal procedure.

If you have any questions please contact Anne-Christine Aycaguer of my staff at (907)-564-4313.

Sincerely,

Stan Gates
Technical and Regulatory Team Lead

Cc:
John Pavitt, EPA anchorage Office
Anita Frankel, EPA Region 10 Seattle
Michele Wright, EPA Region 10 Seattle
Carl Lautenberger, EPA Anchorage Office
Bob Blankenburg, ADEC
Lori Aldrich, ADEC

U.S. ENVIRONMENTAL PROTECTION AGENCY - STATE OF ALASKA
NOTIFICATION OF DEMOLITION AND RENOVATION

Operator Project #	Postmark	Date Received	Notification #

I. Type of Notification (check one): ☐ Original ☒ Revised ☐ Canceled

II. Facility Description (include building name, number, and floor or room number)

Building Name: Various oil pipelines operated by BP Exploration Alaska, Inc at Prudhoe Bay

Address: BP Exploration Alaska, Inc., PO Box 196612

City: Anchorage State: AK Zip Code: 99519 County: None

Site Location (specific): Prudhoe Bay, Alaska

Building Size (square feet): N/A # of Floors: N/a Age in Years: 29

Present Use: Transportation of processed crude oil Prior Use: None

III. Type of Operation (check one) ☐ Demo ☐ Ordered Demo ☐ Renovation ☒ **Emergency Renovation** ☐ Fire Training

IV. Is Asbestos Present? (check one): ☒ Yes ☐ No

V. Facility Information

Owner Name: BP Exploration (Alaska) Inc.

Address: PO Box 196612

City: Anchorage State: Alaska Zip Code: 99519

Contact: Mike Taylor/Laura Dickie, Industrial Hygienist Telephone (907) – 659-4470 Fax: 907-659-4467

Removal Contractor Name: CCI, Inc License #

Address: 800 Cordova St., Suite 102

City: Anchorage, State Alaska Zip Code: 99501

Contact: Nick Kuhlmann Telephone (907) 258-5755 Fax:

Other Operator (demolition/general) CCI (Deadhorse office contacts) License #

Address: Prudhoe Bay Hotel; Office A-100

City: Prudhoe Bay State Alaska Zip Code: 99734

Contact: Jon Lervig, Ken Fitzgerald Telephone (907) 659-2428 Fax: (907) 659 -2446

VI. Procedure, including analytical methods, employed to detect the presence of and to estimate the quantity of RACM and Category I and Category II non-friable ACM: This insulation removal is required for ultrasonic testing of the pipelines, and to install bypasses.

While removing rigid urethane foam insulation from a 29 year-old oil transit pipeline, a hard, black mastic on the inside of the insulation , was discovered. Most came off intact, attached to the urethane insulation sections, but some small patches of black mastic remained adhered on the piping. Samples were taken by the Prudhoe Bay industrial hygienist. Analysis by an EPA-accredited lab indicated approximately 5% to 10% asbestos content in the 1/16 to 1/8 inch thick mastic. The black mastic was determined to be non-friable.

VII. Approximate Amount of Asbestos Materials:

	RACM to be Removed	Non-friable Asbestos Material to be Removed		Non-friable Asbestos Material NOT to be Removed	
		Category I	Category II	Category I	Category II
Pipes (linear feet)	0	0	0	0	0
Surface area of mastic (ft^2)	Some RACM might be generated as a result of removal activities of the category II non-friable asbestos, although efforts will be focused on limiting generation of RACM.	0	235,000 (est.)	0	0
Facility Components (cubic feet)	0	0	0	0	0

VIII. Scheduled Dates Demolition or Renovation: Start: 8/22/2006 Complete: 9/30/2006

U.S. ENVIRONMENTAL PROTECTION AGENCY - STATE OF ALASKA
NOTIFICATION OF DEMOLITION AND RENOVATION

IX. Dates for Asbestos Removal (MM/DD/YY) Start: 8/22/2006 Complete: 9/30/2006

Days of the Week:	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Hours of Operation:	24	24	24	24	24	24	24

Complete all unshaded spaces, except demolitions which involve less than 260 linear feet, 160 square feet, or 35 cubic feet of RACM, need not complete spaces VII, XI,XII,XIII,XIV, and XV. Notifications for Emergency Demolition or Emergency Renovation must supply attachments.

X. Description of planned Demolition or Renovation work to be performed and method(s) to be employed, including demolition or renovation techniques to be used and description of affected facility components:

The work to be performed is the removal of insulation material with asbestos containing mastic attached.

Insulation bands will be cut and the sheet metal weather protection lagging will be removed, thereby freeing the insulation blocks for removal. A procedure has been developed to ensure asbestos is not released to the environment and that workers are properly protected (see enclosed procedure).

XI. Description of work practices and engineering controls to be used to comply with the requirements, including asbestos removal and waste handling emission control procedures:

This work is done outdoors in an open environment.

Insulation blocks will be removed without crushing by workers with asbestos-maintenance training specific to this job.

A procedure has been developed to ensure asbestos is not released to the environment and that workers are properly protected (see enclosed procedure).

The work will be monitored by an individual trained in the provisions of NESHAP (40 CFR PART 61, SUBPART M) and will be on-site during the insulation removal. The BP Prudhoe Bay Industrial Hygienist will also be on-site. Methods and controls may be adjusted as experience dictates.

XII. Waste Transporter #1

Name: ICE Services
Address: Pouch 34004e
City: Prudhoe Bay State: Alaska Zip Code: 99734
Contact: Rich Helinski and Richard Cox Telephone: 907-659 0114 Fax: 907 659 2454-

Waste Transporter #2

Name: CCI, Inc.
Address: Prudhoe Bay Hotel, Office A100
City: Deadhorse State: Alaska Zip Code: 99734
Contact: John Lervig/Ken Fitzgerald Telephone: (907) 659-2428 Fax: 907-659 -2446

XIII. Waste Disposal

Name: North Slope Borough landfill for category II non-friable (see contact and address below), Fairbanks North Star Borough for any RACM (contact and address: Sanduri Road, Fairbanks, Alaska, 99701, Phone: 907-459-1482, Fax: 907-4591017, Contact is Bob Jordan)
Address:
City: Prudhoe Bay State: Alaska Zip Code: 99734
Contact: Rich Helinski Telephone: (907) 448-1516 Fax: 907-659-2454

XIV. Emergency Demolition (complete Item XIV and all other sections, only if this project is an Emergency Demo.)

1. Attach a copy of the Order to this notice.
2. Name of Authority Issuing Order: Title:
3. Authority of Order (Citation of Code):
4. Date of Order (MM/DD/YY): Date Ordered to Begin

XV. Emergency Renovation (See separate sheet attached)

1. Date and Hour of the Emergency: August 20, 2006
2. Description of the sudden, unexpected event:
   BPXA has been required by DOT to inspect Prudhoe Bay's 29-year old oil transit lines and conduct ultrasonic testing as necessary to determine the extent of corrosion damage to the lines. During removal of the insulation, black mastic was noticed. Most of the mastic comes off intact on the insulation blocks when they are lifted off the line, but in some locations it has adhered to the steel pipe surface. The Prudhoe Bay industrial hygienist tested the mastic for asbestos and on August 20, 2006 received results from the EPA-accredited lab that the mastic contained 5% to 10% asbestos content. This is an emergency inspection and maintenance operation, not a scheduled abatement.
3. Explanation of how the event caused unsafe conditions or equipment damage or an unreasonable financial burden.

BP Exploration (Alaska) Inc
Procedure and PPE Hazard Assessment
for
Removal of Insulating Materials and Asbestos-Containing Mastic From Oil Transit Lines Outdoors

Purpose. This procedure sets forth work practices and other controls for the removal of jacketing, foam insulation, and adhered mastic from oil transit lines in the Western Operating Area of the Greater Prudhoe Bay field, as necessary to assure the protection of worker health and safety and compliance with State of Alaska and Federal regulations.

Background. Oil transit lines in the Western Operating Area of Greater Prudhoe Bay were constructed and insulated 29 years ago. The insulation used was urethane foam with a mastic on the inside curve where the insulation rests against the exterior of the steel pipeline. Some mastic may have been applied directly to the pipeline and insulation ends by brush. The insulation is held in place by a sheet metal jacket, secured with crimps and steel straps. Multiple tests of pipeline mastic from various locations in the WOA confirmed that the mastic contained from 5% to 10% Chrysotile asbestos. The asbestos fibers are firmly bound in the non-friable asphaltic mastic. When the insulation is removed, nearly all the mastic remains adhered to the inside of the foam insulation, but perhaps 1-2% of the pipeline surface may have adhered mastic. The mastic is non-friable, both as adhered to the insulation and where it remains on the steel pipeline. These patches are usually hard and dry on the outer surface.
The bottom one third of each oil transit line is required to be ultrasonically tested. This inspection requires that insulation and mastic be removed from the surfaces to be tested. Maintenance workers must first remove the sheet metal jacket and the foam insulation, then asbestos removal workers will remove the patchy mastic from the pipe surface. Mastic is to be removed from all surfaces of the pipe, top and bottom, even those that will not be ultrasonically tested. Other workers may follow the mastic removers to grind rust from the pipeline only in the areas where the mastic has already been removed. The work is being done for maintenance purposes, and not for abatement of any asbestos health hazard.

Federal and State of Alaska regulatory requirements are triggered by the removal of the insulation with its asbestos-containing mastic:

- The EPA NESHAP regulation (40CFR Part 61, Subpart M) classifies asbestos-containing building materials and requires pre-notification of removals to be made to the Alaska Department of Labor on behalf of the EPA. Under this regulation, the mastic is classified as EPA Category 2 non-friable asbestos-containing material. The GPB Industrial Hygienist has filed the EPA notification identifying the removal as an emergency removal required by regulatory agencies for the purposes of corrosion testing of the pipeline.
- Alaska Department of Labor, Division of Occupational Safety and Health, Asbestos Construction Standard, incorporated by reference to 29 CFR 1926.1101, classifies asbestos-related work and sets forth requirements for work

that disturbs asbestos-containing materials. This standard specifies required training, work practices, waste-handling, and other controls.

- The Alaska Department of Labor contends that the insulation removal work meets the definition of Class 2 asbestos removal work and is therefore covered by the Alaska Asbestos Abatement Certification regulation 8 AAC 61.600.
- Under 8 AAC 61.620(b), a plan must be submitted to the Alaska Department of Labor that assures that workers are certified. The plan must be approved by the Department before work starts. The approved plan must be available at the worksite.

Work Tasks and Steps.

Task 1. Removal of sheet metal and rigid foam thermal insulation.

Step 1. Place a Rhinohide sheet under pipeline where jacket and insulation are to be removed. This is to help collect small pieces of insulation and mastic or other debris that may otherwise litter the area after the removal. In areas located over water or large puddles, structures in the form of pallets or scaffolds should be used to hold the Rhinohide out of the water. Areas requiring scaffolds will need to be identified prior to removal activities to permit scaffold construction. Alternatively, spill liners could be suspended from the pipeline to catch falling debris

Step 2. Use Sawz-All to cut open sheet metal jacket. Cut the insulation in lengths that will permit it to fit in the waste dumpster. Cut jacket circumferentially and laterally to expose insulation section to be removed. Cut or clip steel bands where present. Note – wet methods are not feasible for this step because the asbestos-containing mastic is on the inside surface of the insulation and is not accessible to wetting.

Step 3. Lift off sheet metal jacket and insulation sections keeping material intact to the extent possible. Mist the mastic side of the insulation as it is removed. Do not disturb the mastic on the back of the insulation, or remaining on the pipeline. Do not permit the jacket and insulation sections to fall to the sheeting below.

Step 4. Separate the metal jacket from the foam insulation. Stack the metal jacket separately for later pickup for recycling.

Step 5. Promptly place insulation with mastic still attached in NSB dumpsters/bins on site. These dumpsters/bins will be either double-lined with Rhinohide or have a dumpster liner. Spray amended water onto the insulation as it is loaded into the dumpster/bin. Do not crush or compact to reduce volume in the bin. When the dumpster/bin is full, loosely tape the top of it closed. Also place the "normal" netting over the top prior to transporting. NSB will transport the bins to the Oxbow Landfill with the proper paperwork filled out.

Step 6. Clean up any gross urethane debris on Rhinohide and place debris in the dumpster with the insulation. Loose mastic debris is to be cleaned up using a HEPA vacuum. The sheet may be reused continuously at successive insulation removal stations along the line. Do not move the sheet to the next removal station until all debris has been removed and placed in the dumpster. Leave no debris behind under or along the pipeline.

Task 2. Removal of mastic adhered to pipeline.

Wet scraping

Step 1. Establish the removal area as a regulated area by use of asbestos warning signs, cones, or asbestos barrier tape. Ensure that the regulated area has the required asbestos regulated area signs posted.

Step 2. Establish a decontamination area that is connected to the regulated area. The decon area is to be divided into an equipment area and a clean area. Labeled asbestos waste bags and containers for contaminated equipment are to be staged in the equipment area. A Rhinohide sheet is to be placed beneath the waste bags and container. Equipment and gear can be placed on the sheet as workers go through the equipment area. To avoid slip hazards, the sheet should not cover the entire area. Enter and exit the regulated area only through the decon area. Put on all required PPE prior to entering the regulated area.

Step 3. Lay a Rhinohide sheet under the section of piping where removal is to occur. The purpose is to catch any mastic debris that may fall during the removal operation. An acceptable modification is to use a standard spill liner with a Rhinohide or 6 mil poly sheet inside the spill liner. The spill liner may be placed on the ground under the pipeline, or it may be suspended from the pipeline by cords that loop over the pipeline. Either way, the spill liner must be moved along with the work so that the removal occurs over the spill liner.

Step 4. Mist the area of mastic to be removed with a citrus-based solvent (such as De-Solv-it Contractor's Solvent) so that surface is thoroughly wetted.

Step 5. Use a hand-held scraper to scrape the material from the pipe and collect the waste in a plastic-lined pail. Use a HEPA vacuum to capture mastic as it is scraped from the pipeline. Use the HEPA vacuum to vacuum up debris that falls into the spill liner or onto the Rhinohide sheet.

Step 6. Remove any remaining smears of mastic from the pipe surface with a green 3M scrub pad saturated with citrus solvent. As pads become loaded with mastic, dispose of them with the waste mastic in the pail.

Step 7. Clean any gross debris from the Rhinohide by wiping or by use of an HEPA vacuum. Fold the sheet inward and transfer for reuse at the next removal

station. Do not move the sheet to the next removal station until all debris has been removed and placed in the dumpster.

Step 8. Double bag mastic removed in labeled asbestos disposal bags and transfer to the GPB Waste Coordinator for disposal as asbestos waste according to BPXA asbestos procedures. Do not put this waste in the NSB dumpsters.

Step 9. Decontamination. Exit the regulated area only by going through the equipment portion of the decon area. Place all contaminated tools and equipment in containers provided. Use a HEPA vacuum to vacuum off Tyvek suits. Remove the Tyvek suit and place it in a labeled asbestos waste bag in the decon area. If wearing a respirator, leave it on until in the clean area.

Hazard Assessment

Task 1. Sheet metal and insulation removal

Hazards

Sharp edges of sheet metal jacket and bands
Power tool use—Sawz-All: reciprocating saw blade
Eye, face and hand hazards from released straps and sheet metal
Noise from power cutting of metal jacket, expected to be <100 dBA.
Uneven, wet and perhaps slippery surfaces around pipeline and adjacent road embankment, and power cords may present slipping or trip hazards.
Note: no significant asbestos exposure is expected in this task because the asbestos-containing mastic is non-friable and will remain non-friable and undisturbed during the removal.
No asbestos exposure was measured during air monitoring when mastic was removed dry with power tools and no HEPA vacuum. Therefore, no asbestos exposure is expected for sheet metal and insulation removal.
Cold stress in cool, wet weather
Foxes—may be rabid

PPE requirements

Hard hats
Safety glasses with side shields
Cut resistant work gloves
Single hearing protection (plugs or muffs) for use of Sawz-All, or within 10 feet of operating Sawz-All or operating portable generator.
Rubber boots with steel toe and slip resistant soles, warm socks
Standard FRC work coveralls with long sleeves
Raingear or other suitable outerwear for the conditions

Work practice controls

Stay out of the "line of fire" when cutting and removing sheet metal.
Route power cords to reduce tripping hazards in walking areas.

Keep hands clear of nip points and cutting edge of saw.
Watch for foxes and do not allow them to approach.
Take warm-up breaks as necessary to stay warm and dry.

Task 2. Mastic Removal Using Solvent and Scraping

Hazards

Asbestos - No asbestos exposure was measured during air monitoring when mastic was removed dry with power tools and no HEPA vacuum. Therefore, no asbestos exposure is expected for mastic removal by scraping. Exposures are not expected to reach the occupational exposure limits, even during extended shifts. See the negative exposure assessment below.
Airborne asphaltic mastic particles generated by manual removal
Citrus solvent—may cause degreasing of skin
Sharp edges, such as from the scraper
Flying particles
Noise from vacuum cleaner and generator.
Electrical power in use in wet environment
Power cords and vacuum hoses may provide trip hazards.
Cold stress in wet, cool weather
Foxes—may be rabid.

PPE Requirements

Hard hats
Safety glasses with side shields, except when full face respirator is used
Rubber boots with steel toe and slip resistant soles, warm socks
Standard FRC work coveralls with long sleeves
Tyvek suit with hood over FRC coveralls
Nitrile gloves for solvent-enabled scraping and wiping
Insulated leather work gloves optional, nitrile gloves beneath
Raingear or other suitable outerwear for the conditions
Single hearing protection (plugs or muffs) within 10 feet of a generator, power tool user, or portable generator.
Half-face or full-face respirator for scraping of mastic until initial air monitoring and exposure assessment shows it is not needed. Workers will only use respirator model for which they have been fit tested and approved.

Engineering Controls and Work Practices

Use the HEPA filtered vacuum when scraping mastic from pipeline and when cleaning up waste.
All power cords must be provided with ground fault circuit interruption.
Keep hands clear of nip points, cutting edges and other hand hazards.
Route power cords and vacuum hoses so as to minimize tripping hazard
Watch for foxes and do not allow them to approach.
Take warm-up breaks as necessary to stay warm and dry.
No smoking, eating or drinking is allowed inside the regulated area

Promptly clean up any asbestos-containing debris released by the removal process.

Remove used Tyvek coveralls and bag as asbestos waste before leaving the decon area or getting into a vehicle or entering a warm up facility. Leather work gloves may be reused through the shift but should be bagged as waste at the end of the shift.

Note: Be sure to report any injury or unusual condition to a safety advisor, industrial hygienist, or medical person promptly for evaluation.

Negative Exposure Assessment

The asbestos-containing mastic on the insulation and adhered spottily on the pipeline is intact and non-friable. Removal of sheet metal jackets and foam insulation blocks is not expected to result in any release of fibers because the non-friable mastic is not disturbed in the process and is not rendered potentially friable. Likewise, wet removal of mastic is not expected to generate any significant concentration of asbestos fibers because the mastic effectively holds the fibers in a tight matrix.

GPB Industrial hygienists conducted personal exposure air monitoring, following the OSHA reference method on CCI-employed Alaska certified asbestos workers doing *dry wire-buffing and grinding* removal of the mastic from the pipeline. The air samples were analyzed by an EPA-accredited laboratory using the NIOSH 7400 analytical method. The lab reported that fiber air concentrations were less than the detection limit for the for the sample volumes for all but 2 of the samples. The 2 with detectable fiber levels were well below OSHA Permissible Exposure Limits. The detection limits for the samples ranged from one-tenth to one-third of the OSHA permissible exposure limit. The lab sent the samples to a second laboratory in the Lower 48 for analysis by the more sensitive and asbestos-specific method of transmission electron microscopy (TEM). The method used was EPA Level II. This is the analytical method used for EPA asbestos abatement air clearance in schools. The TEM lab reported that *no asbestos structures were found in the air samples.* The reports of this monitoring are on hand in the GPB Industrial Hygiene office, room 115 of the BP Base Operations Center. <u>This objective data supports the conclusion that even dry power brushing and grinding of the mastic does not disturb the mastic in a manner that will cause the release of airborne asbestos fibers that could be inhaled by workers at anywhere near the OSHA 8 hour TWA Permissible Exposure Limit or the 30 minute Excursion Limit.</u>

Removal of foam insulation with intact mastic adhered to it, (Task 1) and the subsequent handling and transfer of the bulk insulation system waste all have far less potential for disturbance than does dry power buffing or grinding, so we conclude that these tasks present no significant potential for asbestos exposure above the OSHA permissible exposure limits.

Removal of adhered mastic from pipeline surfaces will be by wet scraping. The mastic will be wetted with a solvent, and a HEPA-filtered local exhaust system will be used. We

therefore conclude that this task presents no significant potential for exposure above the OSHA permissible exposure limit.

Additional Air Monitoring
The negative exposure assessment notwithstanding, initial air monitoring will be conducted for crews doing insulation removal and mastic removal as a means of checking the efficacy of controls and the conclusions of the negative exposure assessment. This air monitoring will be conducted by an accredited, independent third party, using OSHA and NIOSH approved methods. Air monitoring will continue until assessments clearly confirm that controls are effective and that exposures are being held well below occupational exposure limits. Workers directly monitored will be informed of these results, as will employees whose exposures are represented by the monitoring.

Procedure, PPE hazard assessment, and negative exposure assessment by

(signed)

Michael S. Taylor, CIH, PE
GPB Industrial Hygienist
ABIH Certified Industrial Hygienist #5052
Professional Mechanical Engineer (Alaska) #9016
EPA Accredited Asbestos Building Inspector
EPA Accredited Asbestos Project Designer

Jeffrey A. Carpenter, CIH, CSP
Senior H & S Management Systems Coordinator
ABIH Certified Industrial Hygienist #6357
BCSP Certified Safety Professional #14252

Revision #2
Read Len S. PAC01A

bp

BP Exploration (Alaska) Inc.
900 East Benson Boulevard
P.O. Box 196612
Anchorage, Alaska 99519-6612
(907) 561-5111

September 7, 2006

Ms. Michele Wright
US Environmental Protection Agency Region 10
1200 Sixth Avenue
Seattle, WA 98101

Re: Revision to Emergency Notification of Removal of Asbestos Containing Material

Dear Ms. Wright:

BP Exploration (Alaska) Inc. (BPXA) is submitting a revision to our original emergency notification sent on August 25, 2006, and to our revised notification send on September 1, 2006, for the removal of asbestos-containing insulation coating from oil pipelines in the Prudhoe Bay Field.

This revision is made to include other contractors that will be performing the work in addition to CCI as originally submitted. Their address and contact information is provided directly on the form. The completion of the work is anticipated to take longer than originally estimated, therefore the completion date was revised to October 31, 2006. Finally, a third waste transporter was added, Carlile Transportation Systems Inc, that will likely transport the waste to the Fairbanks landfill as appropriate.

If you have any questions please contact Anne-Christine Aycaguer at (907)-564-4313.

Sincerely,

Len Seymour

Len Seymour
North Slope HSE Manager

Cc:
John Pavitt, EPA anchorage Office
Anita Frankel, EPA Region 10 Seattle
Patrick Wallace, EPA Region 10 Seattle
Carl Lautenberger, EPA Anchorage Office
Bob Blankenburg, ADEC
Lori Aldrich, ADEC

U.S. ENVIRONMENTAL PROTECTION AGENCY - STATE OF ALASKA
NOTIFICATION OF DEMOLITION AND RENOVATION

Operator Project #	Postmark	Date Received	Notification #

I. **Type of Notification** (check one): ☐ Original ☒ Revised ☐ Canceled

II. **Facility Description** (include building name, number, and floor or room number)

Building Name: Various oil pipelines operated by BP Exploration Alaska, Inc at Prudhoe Bay

Address: BP Exploration Alaska, Inc., PO Box 196612

City: Anchorage State: AK Zip Code: 99519 County: None

Site Location (specific): Prudhoe Bay, Alaska

Building Size (square feet): N/A # of Floors: N/a Age in Years: 29

Present Use: Transportation of processed crude oil Prior Use: None

III. **Type of Operation** (check one) ☐ Demo ☐ Ordered Demo ☐ Renovation ☒ Emergency Renovation ☐ Fire Training

IV. **Is Asbestos Present?** (check one): ☒ Yes ☐ No

V. **Facility Information**

Owner Name: BP Exploration (Alaska) Inc.

Address: PO Box 196612

City: Anchorage State: Alaska Zip Code: 99519

Contact: Mike Taylor/Laura Dickie, Industrial Hygienist Telephone (907) – 659-4470 Fax: 907-659-4467

Removal Contractor Name: CCI, Inc License #

Address: 800 Cordova St., Suite 102

City: Anchorage, State Alaska Zip Code: 99501

Contact: Nick Kuhlmann Telephone (907) 258-5755 Fax:

Removal Contractor Name: VECO License #

Address: 949 E. 36th Avenue

City: Anchorage State Alaska Zip Code: 99508

Contact: Amanda Finnegan Telephone 907-762-1193 Fax: 907-762-1194

Removal Contractor Name: White Environmental License #

Address: 731 I street

City: Anchorage State Alaska Zip Code: 99501

Contact: Matt White Telephone 907-258-8661 Fax:

Removal Contractor Name: Environ License #

Address: 214 Carnegie Center

City: Princeton State New Jersey Zip Code: 08540-6284

Contact: Christopher R. Zwiebel Telephone 570-443-9422 Fax: 570-443-0482

Other Operator (demolition/general) CCI (Deadhorse office contacts) License #

Address: Prudhoe Bay Hotel; Office A-100

City: Prudhoe Bay State Alaska Zip Code: 99734

Contact: Jon Lervig, Ken Fitzgerald Telephone (907) 659-2428 Fax: (907) 659 -2446

VI. Procedure, including analytical methods, employed to detect the presence of and to estimate the quantity of RACM and Category I and Category II non-friable ACM: This insulation removal is required for ultrasonic testing of the pipelines, and to install bypasses.

While removing rigid urethane foam insulation from a 29 year-old oil transit pipeline, a hard, black mastic on the inside of the insulation , was discovered. Most came off intact, attached to the urethane insulation sections, but some small patches of black mastic remained adhered on the piping. Samples were taken by the Prudhoe Bay industrial hygienist. Analysis by an EPA-accredited lab indicated approximately 5% to 10% asbestos content in the 1/16 to 1/8 inch thick mastic. The black mastic was determined to be non-friable.

VII. Approximate Amount of Asbestos Materials:

	RACM to be Removed	Non-friable Asbestos Material to be Removed		Non-friable Asbestos Material NOT to be Removed	
		Category I	Category II	Category I	Category II
Pipes (linear feet)	0	0	0	0	0
Surface area of mastic (ft^2)	Some RACM might be generated as a result of removal activities of the category II non-friable asbestos, although efforts will be focused on limiting generation of RACM.	0	235,000 (est.)	0	0
Facility Components (cubic feet)	0	0	0	0	0

VIII. Scheduled Dates Demolition or Renovation: Start: 8/22/2006 Complete: 10/31/2006

IX. Dates for Asbestos Removal (MM/DD/YY) Start: 8/22/2006 Complete: 10/31/2006

Days of the Week:	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Hours of Operation:	24	24	24	24	24	24	24

Complete all unshaded spaces, except demolitions which involve less than 260 linear feet, 160 square feet, or 35 cubic feet of RACM, need not complete spaces VII, XI,XII,XIII,XIV, and XV. Notifications for Emergency Demolition or Emergency Renovation must supply attachments.

X. Description of planned Demolition or Renovation work to be performed and method(s) to be employed, including demolition or renovation techniques to be used and description of affected facility components:

The work to be performed is the removal of insulation material with asbestos containing mastic attached.

Insulation bands will be cut and the sheet metal weather protection lagging will be removed, thereby freeing the insulation blocks for removal. A procedure has been developed to ensure asbestos is not released to the environment and that workers are properly protected (see enclosed procedure).

XI. Description of work practices and engineering controls to be used to comply with the requirements, including asbestos removal and waste handling emission control procedures:

This work is done outdoors in an open environment.

Insulation blocks will be removed without crushing by workers with asbestos-maintenance training specific to this job.

A procedure has been developed to ensure asbestos is not released to the environment and that workers are properly protected (see enclosed procedure).

The work will be monitored by an individual trained in the provisions of NESHAP (40 CFR PART 61, SUBPART M) and will be on-site during the insulation removal. The BP Prudhoe Bay Industrial Hygienist will also be on-site. Methods and controls may be adjusted as experience dictates.

XII. Waste Transporter #1

Name: ICE Services
Address: Pouch 34004e
City: Prudhoe Bay State: Alaska Zip Code: 99734
Contact: Rich Helinski and Richard Cox Telephone: 907-659 0114 Fax: 907 659 2454-

Waste Transporter #2

Name: CCI, Inc.

Address:	Prudhoe Bay Hotel, Office A100				
City:	Deadhorse	State:	Alaska	Zip Code:	99734
Contact:	John Lervig/Ken Fitzgerald	Telephone:	(907) 659-2428	Fax:	907-659-2446

Waste Transporter #3

Name:	Carlile Transportation Systems Inc				
Address:	1800 East 1st Avenue				
City:	Anchorage	State:	Alaska	Zip Code:	99501
Contact:	Lisa Marquiss	Telephone:	(907) 276-7797	Fax:	907-278-7301

XIII. Waste Disposal

Name:	North Slope Borough landfill for category II non-friable (see contact and address below). Fairbanks North Star Borough for any RACM (contact and address: Sandori Road, Fairbanks, Alaska, 99701, Phone: 907-459-1482, Fax: 907-4591017, Contact is Bob Jordan)				
Address:					
City:	Prudhoe Bay	State:	Alaska	Zip Code:	99734
Contact:	Rich Helinski	Telephone:	(907) 448-1516	Fax:	907-659-2454

XIV. Emergency Demolition (complete Item XIV and all other sections, only if this project is an Emergency Demo.)

1. Attach a copy of the Order to this notice.
2. Name of Authority Issuing Order: _____ Title: _____
3. Authority of Order (Citation of Code): _____
4. Date of Order (MM/DD/YY): _____ Date Ordered to Begin

XV. Emergency Renovation (See separate sheet attached)

1. Date and Hour of the Emergency: August 20, 2006
2. Description of the sudden, unexpected event:
   BPXA has been required by DOT to inspect Prudhoe Bay's 29-year old oil transit lines and conduct ultrasonic testing as necessary to determine the extent of corrosion damage to the lines. During removal of the insulation, black mastic was noticed. Most of the mastic comes off intact on the insulation blocks when they are lifted off the line, but in some locations it has adhered to the steel pipe surface. The Prudhoe Bay industrial hygienist tested the mastic for asbestos and on August 20, 2006 received results from the EPA-accredited lab that the mastic contained 5% to 10% asbestos content. This is an emergency inspection and maintenance operation, not a scheduled abatement.
3. Explanation of how the event caused unsafe conditions or equipment damage or an unreasonable financial burden.

XVI. Description of procedures to be followed in the event that unexpected RACM is found or non-friable ACM becomes crumbled, pulverized or reduced to powder.

A procedure has been developed to ensure asbestos is not released to the environment and that workers are properly protected (see enclosed procedure).

XVII. I certify that an individual trained in the provisions of NESHAP (40 CFR PART 61, SUBPART M) will be on-site during the Demolition or Renovation and evidence that the required training has been accomplished by this person will be available during normal business hours.

Len Seymour — 9/7/06 — LEN SEYMOUR, NS HSE MNGR

Signature of Owner/Operator | Date | Type or Print Name and Title

XVIII. I acknowledge the existence of laws prohibiting the submission of false or misleading statements and I certify that facts contained in this notification are true, accurate, and complete.

Len Seymour — 9/7/06 — LEN SEYMOUR, NS HSE MGR

Signature of Owner/Operator | Date | Type or Print Name and Title

BP Exploration (Alaska) Inc
Procedure and PPE Hazard Assessment
for
Removal of Insulating Materials and Asbestos-Containing Mastic From Oil Transit Lines Outdoors

Purpose. This procedure sets forth work practices and other controls for the removal of jacketing, foam insulation, and adhered mastic from oil transit lines in the Western Operating Area of the Greater Prudhoe Bay field, as necessary to assure the protection of worker health and safety and compliance with State of Alaska and Federal regulations.

Background. Oil transit lines in the Western Operating Area of Greater Prudhoe Bay were constructed and insulated 29 years ago. The insulation used was urethane foam with a mastic on the inside curve where the insulation rests against the exterior of the steel pipeline. Some mastic may have been applied directly to the pipeline and insulation ends by brush. The insulation is held in place by a sheet metal jacket, secured with crimps and steel straps. Multiple tests of pipeline mastic from various locations in the WOA confirmed that the mastic contained from 5% to 10% Chrysotile asbestos. The asbestos fibers are firmly bound in the non-friable asphaltic mastic. When the insulation is removed, nearly all the mastic remains adhered to the inside of the foam insulation, but perhaps 1-2% of the pipeline surface may have adhered mastic. The mastic is non-friable, both as adhered to the insulation and where it remains on the steel pipeline. These patches are usually hard and dry on the outer surface.
The bottom one third of each oil transit line is required to be ultrasonically tested. This inspection requires that insulation and mastic be removed from the surfaces to be tested. Maintenance workers must first remove the sheet metal jacket and the foam insulation, then asbestos removal workers will remove the patchy mastic from the pipe surface. Mastic is to be removed from all surfaces of the pipe, top and bottom, even those that will not be ultrasonically tested. Other workers may follow the mastic removers to grind rust from the pipeline only in the areas where the mastic has already been removed. The work is being done for maintenance purposes, and not for abatement of any asbestos health hazard.

Federal and State of Alaska regulatory requirements are triggered by the removal of the insulation with its asbestos-containing mastic:

- The EPA NESHAP regulation (40CFR Part 61, Subpart M) classifies asbestos-containing building materials and requires pre-notification of removals to be made to the Alaska Department of Labor on behalf of the EPA. Under this regulation, the mastic is classified as EPA Category 2 non-friable asbestos-containing material. The GPB Industrial Hygienist has filed the EPA notification identifying the removal as an emergency removal required by regulatory agencies for the purposes of corrosion testing of the pipeline.
- Alaska Department of Labor, Division of Occupational Safety and Health, Asbestos Construction Standard, incorporated by reference to 29 CFR 1926.1101, classifies asbestos-related work and sets forth requirements for work

that disturbs asbestos-containing materials. This standard specifies required training, work practices, waste-handling, and other controls.

- The Alaska Department of Labor contends that the insulation removal work meets the definition of Class 2 asbestos removal work and is therefore covered by the Alaska Asbestos Abatement Certification regulation 8 AAC 61.600.
- Under 8 AAC 61.620(b), a plan must be submitted to the Alaska Department of Labor that assures that workers are certified. The plan must be approved by the Department before work starts. The approved plan must be available at the worksite.

Work Tasks and Steps.

Task 1. Removal of sheet metal and rigid foam thermal insulation.

Step 1. Place a Rhinohide sheet under pipeline where jacket and insulation are to be removed. This is to help collect small pieces of insulation and mastic or other debris that may otherwise litter the area after the removal. In areas located over water or large puddles, structures in the form of pallets or scaffolds should be used to hold the Rhinohide out of the water. Areas requiring scaffolds will need to be identified prior to removal activities to permit scaffold construction. Alternatively, spill liners could be suspended from the pipeline to catch falling debris

Step 2. Use Sawz-All to cut open sheet metal jacket. Cut the insulation in lengths that will permit it to fit in the waste dumpster. Cut jacket circumferentially and laterally to expose insulation section to be removed. Cut or clip steel bands where present. Note – wet methods are not feasible for this step because the asbestos-containing mastic is on the inside surface of the insulation and is not accessible to wetting.

Step 3. Lift off sheet metal jacket and insulation sections keeping material intact to the extent possible. Mist the mastic side of the insulation as it is removed. Do not disturb the mastic on the back of the insulation, or remaining on the pipeline. Do not permit the jacket and insulation sections to fall to the sheeting below.

Step 4. Separate the metal jacket from the foam insulation. Stack the metal jacket separately for later pickup for recycling.

Step 5. Promptly place insulation with mastic still attached in NSB dumpsters/bins on site. These dumpsters/bins will be either double-lined with Rhinohide or have a dumpster liner. Spray amended water onto the insulation as it is loaded into the dumpster/bin. Do not crush or compact to reduce volume in the bin. When the dumpster/bin is full, loosely tape the top of it closed. Also place the "normal" netting over the top prior to transporting. NSB will transport the bins to the Oxbow Landfill with the proper paperwork filled out.

Step 6. Clean up any gross urethane debris on Rhinohide and place debris in the dumpster with the insulation. Loose mastic debris is to be cleaned up using a HEPA vacuum. The sheet may be reused continuously at successive insulation removal stations along the line. Do not move the sheet to the next removal station until all debris has been removed and placed in the dumpster. Leave no debris behind under or along the pipeline.

Task 2. Removal of mastic adhered to pipeline.

Method A—Wet scraping mastic removal without power tools.

Step 1. Establish the removal area as a regulated area by use of asbestos warning signs, cones, or asbestos barrier tape. Ensure that the regulated area has the required asbestos regulated area signs posted.

Step 2. Establish a decontamination area that is connected to the regulated area The decon area is to be divided into an equipment area and a clean area. Labeled asbestos waste bags and containers for contaminated equipment are to be staged in the equipment area. A Rhinohide sheet is to be placed beneath the waste bags and container. Equipment and gear can be placed on the sheet as workers go through the equipment area. To avoid slip hazards, the sheet shoul not cover the entire area. Enter and exit the regulated area only through the decon area. Put on all required PPE prior to entering the regulated area.

Step 3. Lay a Rhinohide sheet under the section of piping where removal is to occur. The purpose is to catch any mastic debris that may fall during the remo operation. An acceptable modification is to use a standard spill liner with a Rhinohide or 6 mil poly sheet inside the spill liner. The spill liner may be plac on the ground under the pipeline, or it may be suspended from the pipeline by cords that loop over the pipeline. Either way, the spill liner must be moved al with the work so that the removal occurs over the spill liner.

Step 4. Mist the area of mastic to be removed with a citrus-based solvent (s as De-Solv-it Contractor's Solvent) so that surface is thoroughly wetted.

Step 5. Use a hand-held scraper to scrape the material from the pipe and c the waste in a plastic-lined pail. Use a HEPA vacuum to capture mastic as i scraped from the pipeline. Use the HEPA vacuum to vacuum up debris tha into the spill liner or onto the Rhinohide sheet.

Step 6. Remove any remaining smears of mastic from the pipe surface wit green 3M scrub pad saturated with citrus solvent. As pads become loadec mastic, dispose of them with the waste mastic in the pail.

Step 7. Clean any gross debris from the Rhinohide by wiping or by use of HEPA vacuum. Fold the sheet inward and transfer for reuse at the next r

station. Do not move the sheet to the next removal station until all debris has been removed and placed in the dumpster.

Step 8. Double bag mastic removed in labeled asbestos disposal bags and transfer to the GPB Waste Coordinator for disposal as asbestos waste according to BPXA asbestos procedures. Do not put this waste in the NSB dumpsters.

Step 9. Decontamination. Exit the regulated area only by going through the equipment portion of the decon area. Place all contaminated tools and equipment in containers provided. Use a HEPA vacuum to vacuum off Tyvek suits. Remove the Tyvek suit and place it in a labeled asbestos waste bag in the decon area. If wearing a respirator, leave it on until in the clean area.

Hazard Assessment

Task 1. Sheet metal and insulation removal

Hazards

Sharp edges of sheet metal jacket and bands
Power tool use—Sawz-All: reciprocating saw blade
Eye, face and hand hazards from released straps and sheet metal
Noise from power cutting of metal jacket, expected to be <100 dBA.
Uneven, wet and perhaps slippery surfaces around pipeline and adjacent road embankment, and power cords may present slipping or trip hazards.
Note: no significant asbestos exposure is expected in this task because the asbestos-containing mastic is non-friable and will remain non-friable and undisturbed during the removal.
No asbestos exposure was measured during air monitoring when mastic was removed dry with power tools and no HEPA vacuum. Therefore, no asbestos exposure is expected for sheet metal and insulation removal.
Cold stress in cool, wet weather
Foxes—may be rabid

PPE requirements

Hard hats
Safety glasses with side shields
Cut resistant work gloves
Single hearing protection (plugs or muffs) for use of Sawz-All, or within 10 feet of operating Sawz-All or operating portable generator.
Rubber boots with steel toe and slip resistant soles, warm socks
Standard FRC work coveralls with long sleeves
Raingear or other suitable outerwear for the conditions
Air purifying respirators with high-efficiency cartridges, and Tyvek suits, will be used initially until initial air monitoring exposure assessment shows they are not needed.

Work practice controls

Stay out of the "line of fire" when cutting and removing sheet metal.
Route power cords to reduce tripping hazards in walking areas.
Keep hands clear of nip points and cutting edge of saw.
Watch for foxes and do not allow them to approach.
Take warm-up breaks as necessary to stay warm and dry.

Task 2. Mastic Removal Using Solvent and Scraping

Hazards

Asbestos - No asbestos exposure was measured during air monitoring when mastic was removed dry with power tools and no HEPA vacuum. Therefore, no asbestos exposure is expected for mastic removal by scraping. Exposures are not expected to reach the occupational exposure limits, even during extended shifts. See the negative exposure assessment below.
Airborne asphaltic mastic particles generated by manual removal
Citrus solvent—may cause degreasing of skin
Sharp edges, such as from the scraper
Flying particles
Noise from vacuum cleaner and generator.
Electrical power in use in wet environment
Power cords and vacuum hoses may provide trip hazards.
Cold stress in wet, cool weather
Foxes—may be rabid.

PPE Requirements

Hard hats
Safety glasses with side shields, except when full face respirator is used
Rubber boots with steel toe and slip resistant soles, warm socks
Standard FRC work coveralls with long sleeves
Tyvek suit with hood over FRC coveralls
Nitrile gloves for solvent-enabled scraping and wiping
Insulated leather work gloves optional, nitrile gloves beneath
Raingear or other suitable outerwear for the conditions
Single hearing protection (plugs or muffs) within 10 feet of a generator, power tool user, or portable generator.
Half-face or full-face respirator for scraping of mastic until initial air monitoring and exposure assessment shows it is not needed. Workers will only use respirator model for which they have been fit tested and approved.

Engineering Controls and Work Practices

Use the HEPA filtered vacuum when scraping mastic from pipeline and when cleaning up waste.
All power cords must be provided with ground fault circuit interruption.
Keep hands clear of nip points, cutting edges and other hand hazards.
Route power cords and vacuum hoses so as to minimize tripping hazard

OSHA reference method on CCI-employed Alaska certified asbestos workers doing *dry wire-buffing and grinding* removal of the mastic from the pipeline. The air samples were analyzed by an EPA-accredited laboratory using the NIOSH 7400 analytical method. The lab reported that fiber air concentrations were less than the detection limit for the for the sample volumes for all but 2 of the samples. The 2 with detectable fiber levels were well below OSHA Permissible Exposure Limits. The detection limits for the samples ranged from one-tenth to one-third of the OSHA permissible exposure limit. The lab sent the samples to a second laboratory in the Lower 48 for analysis by the more sensitive and asbestos-specific method of transmission electron microscopy (TEM). The method used was EPA Level II. This is the analytical method used for EPA asbestos abatement air clearance in schools. The TEM lab reported that *no asbestos structures were found in the air samples.* The reports of this monitoring are on hand in the GPB Industrial Hygiene office, room 115 of the BP Base Operations Center. This objective data supports the conclusion that even dry power brushing and grinding of the mastic does not disturb the mastic in a manner that will cause the release of airborne asbestos fibers that could be inhaled by workers at anywhere near the OSHA 8 hour TWA Permissible Exposure Limit or the 30 minute Excursion Limit.

Removal of foam insulation with intact mastic adhered to it, (Task 1) and the subsequent handling and transfer of the bulk insulation system waste all have far less potential for disturbance than does dry power buffing or grinding, so we conclude that these tasks present no significant potential for asbestos exposure above the OSHA permissible exposure limits.

Removal of adhered mastic from pipeline surfaces will be by wet scraping. The mastic will be wetted with a solvent, and a HEPA-filtered local exhaust system will be used. We therefore conclude that this task presents no significant potential for exposure above the OSHA permissible exposure limit.

Additional Air Monitoring
The negative exposure assessment notwithstanding, initial air monitoring will be conducted for crews doing insulation removal and mastic removal as a means of checking the efficacy of controls and the conclusions of the negative exposure assessment. This air monitoring will be conducted by an accredited, independent third party, using OSHA and NIOSH approved methods. Air monitoring will continue until assessments clearly confirm that controls are effective and that exposures are being held well below occupational exposure limits. Workers directly monitored will be informed of these results, as will employees whose exposures are represented by the monitoring.

Procedure, PPE hazard assessment, and negative exposure assessment by

(signed)

Michael S. Taylor, CIH, PE
GPB Industrial Hygienist
ABIH Certified Industrial Hygienist #5052
Professional Mechanical Engineer (Alaska) #9016
EPA Accredited Asbestos Building Inspector
EPA Accredited Asbestos Project Designer

Jeffrey A. Carpenter, CIH, CSP
Senior H & S Management Systems Coordinator
ABIH Certified Industrial Hygienist #6357
BCSP Certified Safety Professional #14252

bp

3rd Revision
JP A00/A

BP Exploration (Alaska) Inc.
900 East Benson Boulevard
P.O. Box 196612
Anchorage, Alaska 99519-6612
(907) 561-5111

September 11, 2006

RECEIVED
SEP 22 2006
EPA
ANCHORAGE A00/A

Ms. Michele Wright
US Environmental Protection Agency Region 10
1200 Sixth Avenue
Seattle, WA 98101

Re: Revision to Emergency Notification of Removal of Asbestos Containing Material

Dear Ms. Wright:

BP Exploration (Alaska) Inc. (BPXA) is submitting a revision to our original emergency notification sent on August 25, 2006, and to our revised notifications send on September 1 and September 7, 2006, for the removal of asbestos-containing insulation coating from oil pipelines in the Prudhoe Bay Field.

This revision includes another contractor (PENCO Pacific Environmental) that will be performing the work in addition to the contractors already listed in prior submissions (CCI, VECO, White Environmental, Environ). Address and contact information are provided in the notification form.

If you have any questions please contact Anne-Christine Aycaguer at (907)-564-4313.

Sincerely,

Stan Gates
Technical and Regulatory Team Lead

Cc:
John Pavitt, EPA anchorage Office
Anita Frankel, EPA Region 10 Seattle
Patrick Wallace, EPA Region 10 Seattle
Carl Lautenberger, EPA Anchorage Office
Bob Blankenburg, ADEC
Lori Aldrich, ADEC

U.S. ENVIRONMENTAL PROTECTION AGENCY - STATE OF ALASKA
NOTIFICATION OF DEMOLITION AND RENOVATION

Operator Project #	Postmark	Date Received	Notification #

I. Type of Notification (check one): ☐ Original ☒ Revised ☐ Canceled

II. Facility Description (include building name, number, and floor or room number)

Building Name: Various oil pipelines operated by BP Exploration Alaska, Inc at Prudhoe Bay

Address: BP Exploration Alaska, Inc., PO Box 196612

City: Anchorage State: AK Zip Code: 99519 County: None

Site Location (specific): Prudhoe Bay, Alaska

Building Size (square feet): N/A # of Floors: N/a Age in Years: 29

Present Use: Transportation of processed crude oil Prior Use: None

III. Type of Operation (check one) ☐ Demo ☐ Ordered Demo ☐ Renovation ☒ **Emergency Renovation** ☐ Fire Training

IV. Is Asbestos Present? (check one): ☒ Yes ☐ No

V. Facility Information

Owner Name: BP Exploration (Alaska) Inc.

Address: PO Box 196612

City: Anchorage State: Alaska Zip Code: 99519

Contact: Mike Taylor/Laura Dickie, Industrial Hygienist Telephone (907) – 659-4470 Fax: 907-659-4467

Removal Contractor Name: CCI, Inc License #

Address: 800 Cordova St., Suite 102

City: Anchorage, State Alaska Zip Code: 99501

Contact: Nick Kuhlmann Telephone (907) 258-5755 Fax:

Removal Contractor Name: VECO License #

Address: 949 E. 36th Avenue

City: Anchorage State Alaska Zip Code: 99508

Contact: Amanda Finnegan Telephone 907-762-1193 Fax: 907-762-1194

Removal Contractor Name: White Environmental License #

Address: 731 I street

City: Anchorage State Alaska Zip Code: 99501

Contact: Matt White Telephone 907-258-8661 Fax:

Removal Contractor Name: Environ License #

Address: 214 Carnegie Center

City: Princeton State New Jersey Zip Code: 08540-6284

Contact: Christopher R. Zwiebel Telephone 570-443-9422 Fax: 570-443-0482

Removal Contractor Name: PENCO Pacific Environmental License #

Address: 6000 A Street

City: Anchorage State Alaska Zip Code: 99518

Contact: Richard Wilson Telephone 907-562-5420 Fax: 907-562-5426

Other Operator (demolition/general) CCI (Deadhorse office contacts) License #

Address: Prudhoe Bay Hotel; Office A-100

City: Prudhoe Bay State Alaska Zip Code: 99734

Contact: Jon Lervig, Ken Fitzgerald Telephone (907) 659-2428 Fax: (907) 659 -2446

VI. Procedure, including analytical methods, employed to detect the presence of and to estimate the quantity of RACM and Category I and Category II non-friable ACM: This insulation removal is required for ultrasonic testing of the pipelines, and to install bypasses.

While removing rigid urethane foam insulation from a 29 year-old oil transit pipeline, a hard, black mastic on the inside of the insulation , was discovered. Most came off intact, attached to the urethane insulation sections, but some small patches of black mastic remained adhered on the piping. Samples were taken by the Prudhoe Bay industrial hygienist. Analysis by an EPA-accredited lab indicated approximately 5% to 10% asbestos content in the 1/16 to 1/8 inch thick mastic. The black mastic was determined to be non-friable.

VII. Approximate Amount of Asbestos Materials:

	RACM to be Removed	Non-friable Asbestos Material to be Removed		Non-friable Asbestos Material NOT to be Removed	
		Category I	Category II	Category I	Category II
Pipes (linear feet)	0	0	0	0	0
Surface area of mastic (ft^2)	Some RACM might be generated as a result of removal activities of the category II non-friable asbestos, although efforts will be focused on limiting generation of RACM.	0	235,000 (est.)	0	0
Facility Components (cubic feet)	0	0	0	0	0

VIII. Scheduled Dates Demolition or Renovation: Start: 8/22/2006 Complete: 10/31/2006

IX. Dates for Asbestos Removal (MM/DD/YY) Start: 8/22/2006 Complete: 10/31/2006

Days of the Week:	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Hours of Operation:	24	24	24	24	24	24	24

Complete all unshaded spaces, except demolitions which involve less than 260 linear feet, 160 square feet, or 35 cubic feet of RACM, need not complete spaces VII, XI,XII,XIII,XIV, and XV. Notifications for Emergency Demolition or Emergency Renovation must supply attachments.

X. Description of planned Demolition or Renovation work to be performed and method(s) to be employed, including demolition or renovation techniques to be used and description of affected facility components:

The work to be performed is the removal of insulation material with asbestos containing mastic attached.

Insulation bands will be cut and the sheet metal weather protection lagging will be removed, thereby freeing the insulation blocks for removal. A procedure has been developed to ensure asbestos is not released to the environment and that workers are properly protected (see enclosed procedure).

XI. Description of work practices and engineering controls to be used to comply with the requirements, including asbestos removal and waste handling emission control procedures:

This work is done outdoors in an open environment.

Insulation blocks will be removed without crushing by workers with asbestos-maintenance training specific to this job.

A procedure has been developed to ensure asbestos is not released to the environment and that workers are properly protected (see enclosed procedure).

The work will be monitored by an individual trained in the provisions of NESHAP (40 CFR PART 61, SUBPART M) and will be on-site during the insulation removal. The BP Prudhoe Bay Industrial Hygienist will also be on-site. Methods and controls may be adjusted as experience dictates.

XII. Waste Transporter #1

Name: ICE Services
Address: Pouch 34004e
City: Prudhoe Bay State: Alaska Zip Code: 99734
Contact: Rich Helinski and Richard Cox Telephone: 907-659 0114 Fax: 907 659 2454

Waste Transporter #2

Name: CCI, Inc.

Address: Prudhoe Bay Hotel, Office A100
City: Deadhorse State: Alaska Zip Code: 99734
Contact: John Lervig/Ken Fitzgerald Telephone: (907) 659-2428 Fax: 907-659 -2446

Waste Transporter #3
Name: Carlile Transportation Systems Inc
Address: 1800 East 1st Avenue
City: Anchorage State: Alaska Zip Code: 99501
Contact: Lisa Marquiss Telephone: (907) 276-7797 Fax: 907-278-7301

XIII. Waste Disposal

Name: North Slope Borough landfill for category II non-friable (see contact and address below), Fairbanks North Star Borough for any RACM (contact and address: Sanduri Road, Fairbanks, Alaska, 99701, Phone: 907-459-1482, Fax: 907-4591017, Contact is Bob Jordan)
Address:
City: Prudhoe Bay State: Alaska Zip Code: 99734
Contact: Rich Helinski Telephone: (907) 448-1516 Fax: 907-659-2454

XIV. Emergency Demolition (complete Item XIV and all other sections, only if this project is an Emergency Demo.)

1. Attach a copy of the Order to this notice.
2. Name of Authority Issuing Order: Title:
3. Authority of Order (Citation of Code):
4. Date of Order (MM/DD/YY): Date Ordered to Begin

XV. Emergency Renovation (See separate sheet attached)

1. Date and Hour of the Emergency: August 20, 2006
2. Description of the sudden, unexpected event:
   BPXA has been required by DOT to inspect Prudhoe Bay's 29-year old oil transit lines and conduct ultrasonic testing as necessary to determine the extent of corrosion damage to the lines. During removal of the insulation, black mastic was noticed. Most of the mastic comes off intact on the insulation blocks when they are lifted off the line, but in some locations it has adhered to the steel pipe surface. The Prudhoe Bay industrial hygienist tested the mastic for asbestos and on August 20, 2006 received results from the EPA-accredited lab that the mastic contained 5% to 10% asbestos content. This is an emergency inspection and maintenance operation, not a scheduled abatement.
3. Explanation of how the event caused unsafe conditions or equipment damage or an unreasonable financial burden.

XVI. Description of procedures to be followed in the event that unexpected RACM is found or non-friable ACM becomes crumbled, pulverized or reduced to powder.

A procedure has been developed to ensure asbestos is not released to the environment and that workers are properly protected (see enclosed procedure).

XVII. I certify that an individual trained in the provisions of NESHAP (40 CFR PART 61, SUBPART M) will be on-site during the Demolition or Renovation and evidence that the required training has been accomplished by this person will be available during normal business hours.

Signature of Owner/Operator | 9/11/06 Date | STAN GATES TECH/REG TL Type or Print Name and Title

XVIII. I acknowledge the existence of laws prohibiting the submission of false or misleading statements and I certify that facts contained in this notification are true, accurate, and complete.

Signature of Owner/Operator | 9/11/06 Date | STAN GATES TECH/REG TL Type or Print Name and Title

bp

Signed Notice.
A00/A

BP Exploration (Alaska) Inc.
900 East Benson Boulevard
P.O. Box 196612
Anchorage, Alaska 99519-6612
(907) 561-5111

October 16, 2006

RECEIVED
OCT 1 8 2006
EPA
ANCHORAGE A00/A

Ms. Michele Wright
US Environmental Protection Agency Region 10
1200 Sixth Avenue
Seattle, WA 98101

Re: Fourth Revision to Emergency Notification for Removal of Asbestos Containing Material from pipelines at Prudhoe Bay, Alaska

Dear Ms. Wright:

Please disregard BP Exploration (Alaska) Inc (BPXA) submittal from October 12, 2006 which was unsigned. The attached revision to the original notification has been signed. I apologize for the inconvenience this omission might have caused.

Sincerely,

Len Seymour

Len Seymour
North Slope HSE Manager

Cc:
John Pavitt, EPA anchorage Office
Anita Frankel, EPA Region 10 Seattle
Patrick Wallace, EPA Region 10 Seattle
Carl Lautenberger, EPA Anchorage Office
Bob Blankenburg, ADEC
Lori Aldrich, ADEC

U.S. ENVIRONMENTAL PROTECTION AGENCY - STATE OF ALASKA
NOTIFICATION OF DEMOLITION AND RENOVATION

Operator Project #	Postmark	Date Received	Notification #

I. Type of Notification (check one): ☐ Original ☒ Revised ☐ Canceled

II. Facility Description (include building name, number, and floor or room number)

Building Name: Various pipelines operated by BP Exploration Alaska, Inc at Prudhoe Bay

Address: BP Exploration Alaska, Inc., PO Box 196612

City: Anchorage State: AK Zip Code: 99519 County: None

Site Location (specific): Prudhoe Bay, Alaska

Building Size (square feet): N/A # of Floors: N/a Age in Years: 29

Present Use: Transportation of processed crude oil Prior Use: None

III. Type of Operation (check one) ☐ Demo ☐ Ordered Demo ☐ Renovation ☒ **Emergency Renovation** ☐ Fire Training

IV. Is Asbestos Present? (check one): ☒ Yes ☐ No

V. Facility Information

Owner Name: BP Exploration (Alaska) Inc.

Address: PO Box 196612

City: Anchorage State: Alaska Zip Code: 99519

Contact: Mike Taylor/Laura Dickie, Industrial Hygienist Telephone (907) – 659-4470 Fax: 907-659-4467

Removal Contractor Name: CCI, Inc License #

Address: 800 Cordova St., Suite 102

City: Anchorage, State Alaska Zip Code: 99501

Contact: Nick Kuhlmann Telephone (907) 258-5755 Fax:

Removal Contractor Name: VECO License #

Address: 949 E. 36th Avenue

City: Anchorage State Alaska Zip Code: 99508

Contact: Amanda Finnegan Telephone 907-762-1193 Fax: 907-762-1194

Removal Contractor Name: White Environmental License #

Address: 731 I street

City: Anchorage State Alaska Zip Code: 99501

Contact: Matt White Telephone 907-258-8661 Fax:

Removal Contractor Name: Environ License #

Address: 214 Carnegie Center

City: Princeton State New Jersey Zip Code: 08540-6284

Contact: Christopher R. Zwiebel Telephone 570-443-9422 Fax: 570-443-0482

Removal Contractor Name: PENCO Pacific Environmental License #

Address: 6000 A Street

City: Anchorage State Alaska Zip Code: 99518

Contact: Richard Wilson Telephone 907-562-5420 Fax: 907-562-5426

Other Operator (demolition/general) CCI (Deadhorse office contacts) License #

Address: Prudhoe Bay Hotel; Office A-100

City: Prudhoe Bay State Alaska Zip Code: 99734

Contact: Jon Lervig, Ken Fitzgerald Telephone (907) 659-2428 Fax: (907) 659 -2446

VI. Procedure, including analytical methods, employed to detect the presence of and to estimate the quantity of RACM and Category I and Category II non-friable ACM: This insulation removal is required for ultrasonic testing of the pipelines, and to install bypasses.

While removing rigid urethane foam insulation from a 29 year-old oil transit pipeline, a hard, black mastic on the inside of the insulation , was discovered. Most came off intact, attached to the urethane insulation sections, but some small patches of black mastic remained adhered on the piping. Samples were taken by the Prudhoe Bay industrial hygienist. Analysis by an EPA-accredited lab indicated approximately 5% to 10% asbestos content in the 1/16 to 1/8 inch thick mastic. The black mastic was determined to be non-friable.

VII. Approximate Amount of Asbestos Materials:

	RACM to be Removed	Non-friable Asbestos Material to be Removed		Non-friable Asbestos Material NOT to be Removed	
		Category I	Category II	Category I	Category II
Pipes (linear feet)	0	0	~ 30,000 ft	0	0
Surface area of mastic (ft^2)	Some RACM might be generated as a result of removal activities of the category II non-friable asbestos, although efforts will be focused on limiting generation of RACM.	0	~ 257,000 ft^2 90% or more of the mastic is removed along with the insulation, some mastic remains on the pipe in spots and is removed through more hands-on methods (see procedure)	0	0
Facility Components (cubic feet)	0	0	0	0	0

VIII. Scheduled Dates Demolition or Renovation: Start: 8/22/2006 Complete: 12/31/2006

IX. Dates for Asbestos Removal (MM/DD/YY) Start: 8/22/2006 Complete: 12/31/2006

Days of the Week:	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Hours of Operation:	24	24	24	24	24	24	24

Complete all unshaded spaces, except demolitions which involve less than 260 linear feet, 160 square feet, or 35 cubic feet of RACM, need not complete spaces VII, XI,XII,XIII,XIV, and XV. Notifications for Emergency Demolition or Emergency Renovation must supply attachments.

X. Description of planned Demolition or Renovation work to be performed and method(s) to be employed, including demolition or renovation techniques to be used and description of affected facility components:

The work to be performed is the removal of insulation material with asbestos containing mastic attached.

Insulation bands will be cut and the sheet metal weather protection lagging will be removed, thereby freeing the insulation blocks for removal. A procedure has been developed and updated to ensure asbestos is not released to the environment and that workers are properly protected (see enclosed procedure).

XI. Description of work practices and engineering controls to be used to comply with the requirements, including asbestos removal and waste handling emission control procedures:

This work is done outdoors in an open environment.

Insulation blocks will be removed without crushing by workers with asbestos-maintenance training specific to this job.

A procedure has been developed and updated to ensure asbestos is not released to the environment and that workers are properly protected (see enclosed procedure).

The work will be monitored by an individual trained in the provisions of NESHAP (40 CFR PART 61, SUBPART M) and will be on-site during the insulation removal. The BP Prudhoe Bay Industrial Hygienist will also be on-site. Methods and controls may be adjusted as experience dictates.

XII. Waste Transporter #1

Name: ICE Services

Address: Pouch 34004e

City:	Prudhoe Bay	State:	Alaska	Zip Code:	99734
Contact:	Rich Helinski and Richard Cox	Telephone:	907-659 0114	Fax:	907 659 2454-

Waste Transporter #2

Name:	CCI, Inc.				
Address:	Prudhoe Bay Hotel, Office A100				
City:	Deadhorse	State:	Alaska	Zip Code:	99734
Contact:	John Lervig/Ken Fitzgerald	Telephone:	(907) 659-2428	Fax:	907-659 -2446

Waste Transporter #3

Name:	Carlile Transportation Systems Inc				
Address:	1800 East 1st Avenue				
City:	Anchorage	State:	Alaska	Zip Code:	99501
Contact:	Lisa Marquiss	Telephone:	(907) 276-7797	Fax:	907-278-7301

XIII. Waste Disposal

Name: North Slope Borough landfill for category II non-friable (see contact and address below), Fairbanks North Star Borough for any RACM (contact and address: Sanduri Road, Fairbanks, Alaska, 99701, Phone: 907-459-1482, Fax: 907-4591017, Contact is Bob Jordan)

Address:					
City:	Prudhoe Bay	State:	Alaska	Zip Code:	99734
Contact:	Rich Helinski	Telephone:	(907) 448-1516	Fax:	907-659-2454

XIV. Emergency Demolition (complete Item XIV and all other sections, only if this project is an Emergency Demo.)

1. Attach a copy of the Order to this notice.
2. Name of Authority Issuing Order: _____ Title: _____
3. Authority of Order (Citation of Code): _____
4. Date of Order (MM/DD/YY): _____ Date Ordered to Begin

XV. Emergency Renovation (See separate sheet attached)

1. Date and Hour of the Emergency: August 20, 2006
2. Description of the sudden, unexpected event:
   BPXA has been required by DOT to inspect Prudhoe Bay's 29-year old oil transit lines and conduct ultrasonic testing as necessary to determine the extent of corrosion damage to the lines. During removal of the insulation, black mastic was noticed. Most of the mastic comes off intact on the insulation blocks when they are lifted off the line, but in some locations it has adhered to the steel pipe surface. The Prudhoe Bay industrial hygienist tested the mastic for asbestos and on August 20, 2006 received results from the EPA-accredited lab that the mastic contained 5% to 10% asbestos content. This is an emergency inspection and maintenance operation, not a scheduled abatement.
3. Explanation of how the event caused unsafe conditions or equipment damage or an unreasonable financial burden.
   Not Applicable as the emergency is caused by the Department of Transportation Order to perform inspection of the pipeline.

XVI. Description of procedures to be followed in the event that unexpected RACM is found or non-friable ACM becomes crumbled, pulverized or reduced to powder.

A procedure has been developed to ensure asbestos is not released to the environment and that workers are properly protected (see enclosed procedure).

XVII. I certify that an individual trained in the provisions of NESHAP (40 CFR PART 61, SUBPART M) will be on-site during the Demolition or Renovation and evidence that the required training has been accomplished by this person will be available during normal business hours.

Len Seymour	10/16/06	Len Seymour
Signature of Owner/Operator	**Date**	**Type or Print Name and Title**

XVIII. I acknowledge the existence of laws prohibiting the submission of false or misleading statements and I certify that facts contained in this notification are true, accurate, and complete.

Len Seymour	10/16/06	Len Seymour
Signature of Owner/Operator	**Date**	**Type or Print Name and Title**

bp

Attachment for 4th Revision
AP A00/A

BP Exploration (Alaska) Inc.
900 East Benson Boulevard
P.O. Box 196612
Anchorage, Alaska 99519-6612
(907) 561-5111

October 13, 2006

RECEIVED
OCT 16 2006
EPA
ANCHORAGE A00/A

Ms. Michele Wright
US Environmental Protection Agency Region 10
1200 Sixth Avenue
Seattle, WA 98101

Re: Procedure mentioned in Fourth Revision to Emergency Notification for Removal of Asbestos Containing Material

Dear Ms. Wright:

BP Exploration (Alaska) Inc. (BPXA) submitted on October 12, 2006 a revision to our emergency notification for the removal of asbestos-containing insulation coating from pipelines in the Prudhoe Bay Field. Please find enclosed the procedure mentioned in our submittal and inadvertently left out from the submission. I apologize for the inconvenience this omission might have caused.

Sincerely,

Anne-Christine Aycaguer
Waste Management Coordinator

Cc:
John Pavitt, EPA anchorage Office
Anita Frankel, EPA Region 10 Seattle
Patrick Wallace, EPA Region 10 Seattle
Carl Lautenberger, EPA Anchorage Office
Bob Blankenburg, ADEC
Lori Aldrich, ADEC

BP Exploration (Alaska) Inc
Procedure and PPE Hazard Assessment
for
Removal of Insulating Materials and Asbestos-Containing Sealant From Oil Transit Lines Outdoors

Purpose. This procedure sets forth work practices and other controls for the removal of jacketing, foam insulation, and adhered sealant from oil transit lines in the Western Operating Area of the Greater Prudhoe Bay field, as necessary to assure the protection of worker health and safety and compliance with State of Alaska and Federal regulations.

Background. Oil transit lines in the Western Operating Area of Greater Prudhoe Bay were constructed and insulated 29 years ago. The insulation used was urethane foam with a sealant on the inside curve where the insulation rests against the exterior of the steel pipeline. Some sealant may have been applied directly to the pipeline and insulation ends by brush. The insulation is held in place by a sheet metal jacket, secured with crimps and steel straps. Multiple tests of pipeline sealant from various locations in the WOA confirmed that the sealant contained from 5% to 10% Chrysotile asbestos. The asbestos fibers are firmly bound in the non-friable asphaltic sealant. When the insulation is removed, nearly all the sealant remains adhered to the inside of the foam insulation, but perhaps 1-2% of the pipeline surface may have adhered sealant. The sealant is non-friable, both as adhered to the insulation and where it remains on the steel pipeline. These patches are usually hard and dry on the outer surface.

The bottom one third of each oil transit line is required to be ultrasonically tested. This inspection requires that insulation and sealant be removed from the surfaces to be tested. Maintenance workers must first remove the sheet metal jacket and the foam insulation, then asbestos removal workers will remove the patchy sealant from the pipe surface. Sealant is to be removed from all surfaces of the pipe, top and bottom, even those that will not be ultrasonically tested. Other workers may follow the sealant removers to grind rust from the pipeline only in the areas where the sealant has already been removed. The work is being done for maintenance purposes, and not for abatement of any asbestos health hazard.

Federal and State of Alaska regulatory requirements are triggered by the removal of the insulation with its asbestos-containing sealant:

- The EPA NESHAP regulation (40CFR Part 61, Subpart M) classifies asbestos-containing building materials and requires pre-notification of removals to be made to the Alaska Department of Labor on behalf of the EPA. Under this regulation, the sealant is classified as EPA Category 2 non-friable asbestos-containing material. The Anchorage HSE department has filed the EPA notification identifying the removal as an emergency removal required by regulatory agencies for the purposes of corrosion testing of the pipeline.

- Alaska Department of Labor, Division of Occupational Safety and Health, Asbestos Construction Standard, incorporated by reference to 29 CFR 1926.1101, classifies asbestos-related work and sets forth requirements for work that disturbs asbestos-containing materials. This standard specifies required training, work practices, waste-handling, and other controls.
- The Alaska Department of Labor contends that the insulation removal work meets the definition of Class 2 asbestos removal work and is therefore covered by the Alaska Asbestos Abatement Certification regulation 8 AAC 61.600.
- Under 8 AAC 61.620(b), a plan listing the certified workers to be used, must be submitted to the Alaska Department of Labor that assures that workers are certified. The workers must be approved by the Department before asbestos removal starts. The approved plan with the worker list must be available at the worksite.

Work Tasks and Steps.

Task 1. Removal of sheet metal and rigid foam thermal insulation.

Step 1. Place a Rhinohide sheet under the pipeline where the jacket and insulation are to be removed. This is to help collect small pieces of insulation and sealant or other debris that may otherwise litter the area after the removal. In areas located over water or large puddles, structures in the form of pallets or scaffolds should be used to hold the Rhinohide out of the water. Areas requiring scaffolds will need to be identified prior to removal activities to permit scaffold construction. Alternatively, spill liners could be suspended from the pipeline to catch falling debris.

Step 2. Use Sawz-All and or hand tools as necessary to open the sheet metal jacket and to cut or clip steel retaining bands where present. Note – wet methods are not feasible for this step because the asbestos-containing sealant is on the inside surface of the insulation and is not accessible to wetting.

Step 3. Lift off sheet metal jacket and insulation sections keeping material intact to the extent possible. Mist the sealant side of the insulation as it is removed. Do not disturb the sealant on the back of the insulation, or remaining on the pipeline.

Step 4. Separate the metal jacket from the foam insulation. Stack the metal jacket separately for later pickup for recycling. Metal jackets with sealant should be disposed of with the waste foam insulation.

Step 5. Promptly place insulation with sealant still attached in NSB dumpsters/bins on site. These dumpsters/bins will be either double-lined with Rhinohide or have a dumpster liner. Spray amended water onto the insulation as it is loaded into the dumpster/bin. Do not crush or compact to reduce volume in the bin. When the dumpster/bin is full, loosely tape the top of it closed. Also place the "normal" netting over the top prior to transporting. NSB will transport the bins to the Oxbow Landfill with the proper paperwork filled out.

Step 6. Clean up any gross urethane debris on Rhinohide and place debris in the dumpster with the insulation. Loose sealant debris is to be cleaned up using a HEPA vacuum. The sheet may be reused continuously at successive insulation removal stations along the line. Do not move the sheet to the next removal station until all debris has been removed and placed in the dumpster. Leave no debris behind under or along the pipeline.

Task 2. Removal of sealant adhered to pipeline.

Method A—Wet scraping sealant removal without power tools. Preferred method.

Step 1. Establish the removal area as a regulated area by use of asbestos warning signs, cones, or asbestos barrier tape. Ensure that the regulated area has the required asbestos regulated area signs posted.

Step 2. Establish a decontamination area that is connected to the regulated area. The decon area is to be divided into an equipment area and a clean area. Labeled asbestos waste bags and containers for contaminated equipment are to be staged in the equipment area. A Rhinohide sheet is to be placed beneath the waste bags and container. Equipment and gear can be placed on the sheet as workers go through the equipment area. To avoid slip hazards, the sheet should not cover the entire area. Enter and exit the regulated area only through the decon area. Put on all required PPE prior to entering the regulated area.

Step 3. Lay a Rhinohide sheet under the section of piping where removal is to occur. The purpose is to catch sealant debris that falls during the removal operation. An acceptable modification is to use a standard spill liner with a Rhinohide or 6 mil poly sheet inside the spill liner. The spill liner may be placed on the ground under the pipeline, or it may be suspended from the pipeline by cords that loop over the pipeline. Either way, the spill liner must be moved along with the work so that the removal occurs over the spill liner.

Step 4. Mist the area of sealant to be removed with a citrus-based solvent (such as De-Solv-it Contractor's Solvent) so that surface is thoroughly wetted.

Step 5. Use a hand-held scraper to scrape the material from the pipe. The scrapings may be captured in either of the following ways:

- Use a HEPA vacuum to capture sealant as it is scraped free, or
- Allow the scrapings to fall to the spill liner and/or Rhinohide sheet.

Step 6. Remove any remaining smears of sealant from the pipe surface with an abrasive scrub pad (green 3M pad or the like) saturated with citrus solvent. As pads become loaded with sealant, dispose of them with the waste sealant in the labeled asbestos disposal bags.

Step 7. Clean any gross debris from the Rhinohide by wiping or by use of an HEPA vacuum. Large pieces of sealant may be picked up by hand and placed directly in labeled asbestos disposal bags if that works better. Do not dry sweep the debris. Fold the sheet inward and transfer for reuse at the next removal station. Do not move the sheet to the next removal station until gross debris has been cleaned from the sheet.

Step 8. Double bag sealant removed in labeled asbestos disposal bags and transfer to the GPB Waste Coordinator for disposal as asbestos waste according to BPXA asbestos procedures. Do not put this waste in the NSB dumpsters.

Step 9. Decontamination. Exit the regulated area only by going through the equipment portion of the decon area. Place all contaminated tools and equipment in containers provided. Use a HEPA vacuum to vacuum off Tyvek suits. Remove the Tyvek suit and place it in a labeled asbestos waste bag in the decon area. If wearing a respirator, leave it on until in the clean area.

Method B—Power wire brushing or grinding with HEPA exhaust system. For use where manual scraping is not effective or efficient, such as on welds or crevices. Use this method when and where directed by the competent person on site. This method may be used also by Alaska-certified asbestos workers for special situations such as preparation of localized surfaces of piping for hot tap or welding operations along pipelines or in production facilities where asbestos-containing sealant is present. The work of these latter situations will be described in an appropriate work order.

Step 1. Set up or work within a regulated area as described in **Method A—Wet scraping.** Procedures and controls in place for Method A, including misting with a sealant removal solvent, apply to Method B as well. Note – If work takes place in or near a production facility, a Hot Work Permit will be necessary. Obtain this from the facility Control Room and complete it with the area operator upon arrival at the facility.

Step 2. Choose a 5" or 7" grinder specially equipped with a capture hood and take off for local exhaust ventilation.

Step 3. Fit the grinder with a wire wheel, sanding disk, or grinding disk as suited to the specific surface and requirement.

Step 4. Fit the hose from a HEPA vacuum to the capture hood take off point such that no leaks occur.

Step 5. Turn on the HEPA vacuum at the highest speed (if variable) and be sure that any bypass vents are closed so that all flow to the vacuum originates at the tool capture hood.

Step 4. Use the grinder to remove the sealant and/or to buff the surface as directed by the work order or by the competent person.

Step 5. Wet wipe surfaces, as described in Method A, after grinding or buffing if necessary to remove any remaining bits of sealant.

Step 6. Clean the Rhinohide sheet using HEPA vacuum and save it for reuse at the next station. Do not dry sweep the debris. When the Rhinohide sheet is worn out, clean and place it in the dumpster with the foam insulation for transport to the North Slope Borough Landfill. Remove regulated area tape and signs.

Step 7. When the HEPA vacuum collection bag is full, replace it according to manufacturer's directions, then double bag it in a labeled asbestos bag for disposal as friable asbestos waste through the Waste Coordinator.

Hazard Assessment

Task 1. Sheet metal and insulation removal

Hazards

Sharp edges of sheet metal jacket and bands
Power tool use—Sawz-All: reciprocating saw blade
Eye, face and hand hazards from released straps and sheet metal
Noise from power cutting of metal jacket, expected to be <100 dBA.
Uneven, wet and perhaps slippery surfaces around pipeline and adjacent road embankment, and power cords may present slipping or trip hazards.
Note: no significant asbestos exposure is expected in this task because the asbestos-containing sealant is non-friable and will remain non-friable and undisturbed during the removal.
No asbestos exposure was measured during air monitoring when sealant was removed dry with power tools and no HEPA vacuum. Therefore, no asbestos exposure is expected for sheet metal and insulation removal.
Cold stress in cool, wet weather
Foxes—may be rabid
Crushing injuries from sudden movement of pipelines

PPE requirements

Hard hats
Safety glasses with side shields
Cut resistant work gloves
Single hearing protection (plugs or muffs) for use of Sawz-All, or within 10 feet of operating Sawz-All or operating portable generator.
Rubber boots with steel toe and slip resistant soles, warm socks
Standard FRC work coveralls with long sleeves
Raingear or other suitable outerwear for the conditions

Air purifying respirators with high-efficiency cartridges, and Tyvek suits, will be used initially until initial air monitoring exposure assessment shows they are not needed.

Work practice controls

Stay out of the "line of fire" when cutting and removing sheet metal.
Route power cords to reduce tripping hazards in walking areas.
Keep hands clear of nip points and cutting edge of saw.
Watch for foxes and do not allow them to approach.
Take warm-up breaks as necessary to stay warm and dry.
Block pipelines before working between them

Task 2. Sealant removal by wet scraping, power wire brushing or grinding

Hazards

Asbestos - No asbestos exposure was measured during air monitoring when sealant was removed dry with power tools and no HEPA vacuum. Therefore, no asbestos exposure is expected for sealant removal by scraping. Exposures are not expected to reach the occupational exposure limits, even during extended shifts. See the negative exposure assessment below.
Airborne asphaltic sealant particles generated by manual removal
Citrus solvent—may cause degreasing of skin
Sharp edges, such as from the scraper
Flying particles
Noise from vacuum cleaner and generator.
Electrical power in use in wet environment
Power cords and vacuum hoses may provide trip hazards.
Cold stress in wet, cool weather
Foxes—may be rabid.
Fire or explosion from ignition source within a classified area

PPE Requirements

Hard hats
Safety glasses with side shields, except when full face respirator is used
Rubber boots with steel toe and slip resistant soles, warm socks
Standard FRC work coveralls with long sleeves
Tyvek suit (single layer only) with hood over FRC coveralls or other clothing.
Nitrile gloves for solvent-enabled scraping and wiping
Insulated leather work gloves optional, nitrile gloves beneath
Raingear or other suitable outerwear for the conditions
Single hearing protection (plugs or muffs) within 10 feet of a generator, power tool user, or portable generator.
Double hearing protection (plugs and muffs) for power grinding or buffing, or work within 10 feet of such tasks.

Half-face or full-face respirator with HEPA cartridges for scraping of sealant until initial air monitoring and exposure assessment shows it is not needed. Workers will only use respirator model for which they have been fit tested and approved. Face shield and goggles are required for power grinding and buffing if a full face respirator is not in use.

Engineering Controls and Work Practices

Establish a regulated area and decon station as indicated in task steps.
Obtain the appropriate work permit for the activity to be performed, including a hot work permit if using electrical or spark producing tools in or near a classified area.
Use drop cloth under removal sites to prevent contamination of tundra.
Use a HEPA vacuum when cleaning up waste. It may be used directly to capture scraped particles as they are released from the surface.
Use a HEPA vacuum as a local exhaust system for all power grinding of sealant.
All power cords must be provided with ground fault circuit interruption.
Keep hands clear of nip points, cutting edges and other hand hazards.
Route power cords and vacuum hoses so as to minimize tripping hazard
Place blocks between pipelines before working between pipelines
Watch for foxes and do not allow them to approach.
Take warm-up breaks as necessary to stay warm and dry.
Block pipelines before working between them.
No smoking, eating or drinking is allowed inside the regulated area.
Promptly clean up any asbestos-containing debris released by the removal process.
Remove used Tyvek coveralls and bag as asbestos waste before leaving the decon area or getting into a vehicle or entering a warm up facility. Leather work gloves may be reused through the shift but should be bagged as waste at the end of the shift.
Do not dry sweep asbestos-containing debris. Debris must be wet when swept.

Note: Be sure to report any injury or unusual condition to a safety advisor, industrial hygienist, or medical person promptly for evaluation.

Procedures To Be Followed If Unexpected Asbestos Is Found

Other parts of the pipeline insulation and support system may contain asbestos. Pipeline components with the potential to contain asbestos include Anchor Blocks, mastic on exterior surfaces of insulation/piping components, or mastic under Polyken pipe wrap. If material that is not in the scope of this procedure is encountered, it is not to be disturbed. The Industrial Hygienist is to be contacted to evaluate the material. If it contains asbestos, a plan will be developed to safely address it.

Procedure To Be Followed During Windy Conditions

Work removing asbestos must not generate visible emissions. If wind conditions are such that asbestos waste is not contained on drop cloths before it is bagged, the site supervisor shall take appropriate action to ensure that there are no visible emissions of

asbestos. This may include stopping sealant removal work, bagging waste, erecting a shelter, or other actions that will prevent visible emissions.

Procedure for Marking Lines as "ACM REMOVED"

After the insulation and sealant have been removed from a segment of transit line and the drop cloths have been moved, a QA/QC Inspector will inspect the area. The Inspector will verify that the pipe has been cleaned of sealant, wiped down and is ready for UT examination. The Inspector will also verify that all the sealant and insulation debris has been cleaned from the surrounding area, and that none remains on the ground.

Once these conditions have been verified, the Inspector will use green spray paint to write "ACM REMOVED" from that pipeline segment. If sealant has not been sufficiently cleaned from the pipeline, or if insulation or sealant debris is found in the pipeline corridor, the deficiencies will be corrected before the line is painted.

Negative Exposure Assessment

The asbestos-containing sealant on the insulation and adhered spottily on the pipeline is intact and non-friable. Removal of sheet metal jackets and foam insulation blocks is not expected to result in any release of fibers because the non-friable sealant is not disturbed in the process and is not rendered potentially friable. Likewise, wet removal of sealant is not expected to generate any significant concentration of asbestos fibers because the sealant effectively holds the fibers in a tight matrix.

GPB Industrial hygienists conducted personal exposure air monitoring, following the OSHA reference method on CCI-employed Alaska certified asbestos workers doing *dry wire-buffing and grinding* removal of the sealant from the pipeline. The air samples were analyzed by an EPA-accredited laboratory using the NIOSH 7400 analytical method. The lab reported that fiber air concentrations were less than the detection limit for the for the sample volumes for all but 2 of the samples. The 2 with detectable fiber levels were well below OSHA Permissible Exposure Limits. The detection limits for the samples ranged from one-tenth to one-third of the OSHA permissible exposure limit. The lab sent the samples to a second laboratory in the Lower 48 for analysis by the more sensitive and asbestos-specific method of transmission electron microscopy (TEM). The method used was EPA Level II. This is the analytical method used for EPA asbestos abatement air clearance in schools. The TEM lab reported that *no asbestos structures were found in nearly all the air samples. A few samples had one to three fibers out of 100 fields examined, which is extremely low.* The reports of this monitoring are on hand in the GPB Industrial Hygiene office, room 155 of the BP Base Operations Center. This objective data supports the conclusion that even dry power brushing and grinding of the sealant does not disturb the sealant in a manner that will cause the release of airborne asbestos fibers that could be inhaled by workers at anywhere near the OSHA 8 hour TWA Permissible Exposure Limit or the 30 minute Excursion Limit.

Removal of foam insulation with intact sealant adhered to it, (Task 1) and the subsequent handling and transfer of the bulk insulation system waste all have far less potential for disturbance than does dry power buffing or grinding, so we conclude that these tasks present no significant potential for asbestos exposure above the OSHA permissible exposure limits.

Removal of adhered sealant from pipeline surfaces will generally be by wet scraping or in some cases by wet power grinding with HEPA exhaust system, both less likely to generate fibers than the test dry grinding method. We therefore conclude that this task presents no significant potential for exposure above the OSHA PEL.

Where rough surfaces such as welds or crevices render hand scraping ineffective, power grinding or buffing may be used. This activity will be conducted using a HEPA-filtered local exhaust system so the exposure potential is expected to be less than during the test power grinding and buffing done without local exhaust. We therefore conclude that this task presents no significant potential for exposure above the OSHA permissible exposure limit.

Additional Air Monitoring

The negative exposure assessment notwithstanding, initial air monitoring will be conducted for crews doing insulation removal and sealant removal as a means of checking the efficacy of controls and the conclusions of the negative exposure assessment. This air monitoring will be conducted by an accredited, independent third party, using OSHA and NIOSH approved methods. Air monitoring will continue until assessments clearly confirm that controls are effective and that exposures are being held well below occupational exposure limits. Workers directly monitored will be informed of these results, as will employees whose exposures are represented by the monitoring.

Procedure, PPE hazard assessment, and negative exposure assessment by:

Michael S. Taylor, CIH, PE
GPB Industrial Hygienist
ABIH Certified Industrial Hygienist #5052
Professional Mechanical Engineer #9016
EPA Accredited Asbestos Building Inspector

Jeffrey A. Carpenter, CIH, CSP
Senior H&S Mgmt Systems Coordinator
ABIH Certified Industrial Hygienist #6357
BCSP Certified Safety Professional
#14252

bp

Note: unsigned copy dated 10/12/06.
AP A00/A
Retracted
& re-sent
on 10/16/06

BP Exploration (Alaska) Inc.
900 East Benson Boulevard
P.O. Box 196612
Anchorage, Alaska 99519-6612
(907) 561-5111

October 12, 2006

Ms. Michele Wright
US Environmental Protection Agency Region 10
1200 Sixth Avenue
Seattle, WA 98101

RECEIVED
OCT 13 2006
EPA
ANCHORAGE A00/A

Re: Fourth Revision to Emergency Notification for Removal of Asbestos Containing Material

Dear Ms. Wright:

BP Exploration (Alaska) Inc. (BPXA) is submitting a revision to our original emergency notification sent on August 25, 2006, and to our revised notifications send on September 1, September 7, and September 11, 2006, for the removal of asbestos-containing insulation coating from pipelines in the Prudhoe Bay Field.

This revision provides the pipeline linear footage where insulation and sealant will be removed, extends the work till the end of the year 12/31/2006, and clarifies that most of the asbestos containing mastic (non-friable) is removed with the insulation, and only spots remain on the pipeline requiring wet scraping or power wire brushing/grinding with HEPA exhaust system. A revised procedure is also included.

If you have any questions please contact Anne-Christine Aycaguer at (907)-564-4313.

Sincerely,

Len Seymour

Len Seymour
North Slope HSE Manager

Cc:
John Pavitt, EPA anchorage Office
Anita Frankel, EPA Region 10 Seattle
Patrick Wallace, EPA Region 10 Seattle
Carl Lautenberger, EPA Anchorage Office
Bob Blankenburg, ADEC
Lori Aldrich, ADEC

U.S. ENVIRONMENTAL PROTECTION AGENCY - STATE OF ALASKA
NOTIFICATION OF DEMOLITION AND RENOVATION

Operator Project #	Postmark	Date Received	Notification #

I. Type of Notification (check one): ☐ Original ☒ Revised ☐ Canceled

II. Facility Description (include building name, number, and floor or room number)

Building Name: Various pipelines operated by BP Exploration Alaska, Inc at Prudhoe Bay

Address: BP Exploration Alaska, Inc., PO Box 196612

City: Anchorage State: AK Zip Code: 99519 County: None

Site Location (specific): Prudhoe Bay, Alaska

Building Size (square feet): N/A # of Floors: N/a Age in Years: 29

Present Use: Transportation of processed crude oil Prior Use: None

III. Type of Operation (check one) ☐ Demo ☐ Ordered Demo ☐ Renovation ☒ **Emergency Renovation** ☐ Fire Training

IV. Is Asbestos Present? (check one): ☒ Yes ☐ No

V. Facility Information

Owner Name: BP Exploration (Alaska) Inc.

Address: PO Box 196612

City: Anchorage State: Alaska Zip Code: 99519

Contact: Mike Taylor/Laura Dickie, Industrial Hygienist Telephone (907) – 659-4470 Fax: 907-659-4467

Removal Contractor Name: CCI, Inc License #

Address: 800 Cordova St., Suite 102

City: Anchorage, State Alaska Zip Code: 99501

Contact: Nick Kuhlmann Telephone (907) 258-5755 Fax:

Removal Contractor Name: VECO License #

Address: 949 E. 36th Avenue

City: Anchorage State Alaska Zip Code: 99508

Contact: Amanda Finnegan Telephone 907-762-1193 Fax: 907-762-1194

Removal Contractor Name: White Environmental License #

Address: 731 I street

City: Anchorage State Alaska Zip Code: 99501

Contact: Matt White Telephone 907-258-8661 Fax:

Removal Contractor Name: Environ License #

Address: 214 Carnegie Center

City: Princeton State New Jersey Zip Code: 08540-6284

Contact: Christopher R. Zwiebel Telephone 570-443-9422 Fax: 570-443-0482

Removal Contractor Name: PENCO Pacific Environmental License #

Address: 6000 A Street

City: Anchorage State Alaska Zip Code: 99518

Contact: Richard Wilson Telephone 907-562-5420 Fax: 907-562-5426

Other Operator (demolition/general) CCI (Deadhorse office contacts) License #

Address: Prudhoe Bay Hotel; Office A-100

City: Prudhoe Bay State Alaska Zip Code: 99734

Contact: Jon Lervig, Ken Fitzgerald Telephone (907) 659-2428 Fax: (907) 659 -2446

VI. Procedure, including analytical methods, employed to detect the presence of and to estimate the quantity of RACM and Category I and Category II non-friable ACM: This insulation removal is required for ultrasonic testing of the pipelines, and to install bypasses.

While removing rigid urethane foam insulation from a 29 year-old oil transit pipeline, a hard, black mastic on the inside of the insulation , was discovered. Most came off intact, attached to the urethane insulation sections, but some small patches of black mastic remained adhered on the piping. Samples were taken by the Prudhoe Bay industrial hygienist. Analysis by an EPA-accredited lab indicated approximately 5% to 10% asbestos content in the 1/16 to 1/8 inch thick mastic. The black mastic was determined to be non-friable.

VII. Approximate Amount of Asbestos Materials:

	RACM to be Removed	Non-friable Asbestos Material to be Removed		Non-friable Asbestos Material NOT to be Removed	
		Category I	Category II	Category I	Category II
Pipes (linear feet)	0	0	~ 30,000 ft	0	0
Surface area of mastic (ft^2)	Some RACM might be generated as a result of removal activities of the category II non-friable asbestos, although efforts will be focused on limiting generation of RACM.	0	~ 257,000 ft^2 90% or more of the mastic is removed along with the insulation, some mastic remains on the pipe in spots and is removed through more hands-on methods (see procedure)	0	0
Facility Components (cubic feet)	0	0	0	0	0

VIII. Scheduled Dates Demolition or Renovation: Start: 8/22/2006 Complete: 12/31/2006

IX. Dates for Asbestos Removal (MM/DD/YY) Start: 8/22/2006 Complete: 12/31/2006

Days of the Week:	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Hours of Operation:	24	24	24	24	24	24	24

Complete all unshaded spaces, except demolitions which involve less than 260 linear feet, 160 square feet, or 35 cubic feet of RACM, need not complete spaces VII, XI,XII,XIII,XIV, and XV. Notifications for Emergency Demolition or Emergency Renovation must supply attachments.

X. Description of planned Demolition or Renovation work to be performed and method(s) to be employed, including demolition or renovation techniques to be used and description of affected facility components:

The work to be performed is the removal of insulation material with asbestos containing mastic attached.

Insulation bands will be cut and the sheet metal weather protection lagging will be removed, thereby freeing the insulation blocks for removal. A procedure has been developed and updated to ensure asbestos is not released to the environment and that workers are properly protected (see enclosed procedure).

XI. Description of work practices and engineering controls to be used to comply with the requirements, including asbestos removal and waste handling emission control procedures:

This work is done outdoors in an open environment.

Insulation blocks will be removed without crushing by workers with asbestos-maintenance training specific to this job.

A procedure has been developed and updated to ensure asbestos is not released to the environment and that workers are properly protected (see enclosed procedure).

The work will be monitored by an individual trained in the provisions of NESHAP (40 CFR PART 61, SUBPART M) and will be on-site during the insulation removal. The BP Prudhoe Bay Industrial Hygienist will also be on-site. Methods and controls may be adjusted as experience dictates.

XII. Waste Transporter #1

Name: ICE Services

Address: Pouch 34004c

City: Prudhoe Bay State: Alaska Zip Code: 99734
Contact: Rich Helinski and Richard Cox Telephone: 907-659 0114 Fax: 907 659 2454-

Waste Transporter #2
Name: CCI, Inc.
Address: Prudhoe Bay Hotel, Office A100
City: Deadhorse State: Alaska Zip Code: 99734
Contact: John Lervig/Ken Fitzgerald Telephone: (907) 659-2428 Fax: 907-659 -2446

Waste Transporter #3
Name: Carlile Transportation Systems Inc
Address: 1800 East 1st Avenue
City: Anchorage State: Alaska Zip Code: 99501
Contact: Lisa Marquiss Telephone: (907) 276-7797 Fax: 907-278-7301

XIII. Waste Disposal

Name: North Slope Borough landfill for category II non-friable (see contact and address below), Fairbanks North Star Borough for any RACM (contact and address: Sanduri Road, Fairbanks, Alaska, 99701, Phone: 907-459-1482, Fax: 907-4591017, Contact is Bob Jordan)
Address:
City: Prudhoe Bay State: Alaska Zip Code: 99734
Contact: Rich Helinski Telephone: (907) 448-1516 Fax: 907-659-2454

XIV. Emergency Demolition (complete Item XIV and all other sections, only if this project is an Emergency Demo.)

1. Attach a copy of the Order to this notice.
2. Name of Authority Issuing Order: Title:
3. Authority of Order (Citation of Code):
4. Date of Order (MM/DD/YY): Date Ordered to Begin

XV. Emergency Renovation (See separate sheet attached)

1. Date and Hour of the Emergency: August 20, 2006
2. Description of the sudden, unexpected event:
   BPXA has been required by DOT to inspect Prudhoe Bay's 29-year old oil transit lines and conduct ultrasonic testing as necessary to determine the extent of corrosion damage to the lines. During removal of the insulation, black mastic was noticed. Most of the mastic comes off intact on the insulation blocks when they are lifted off the line, but in some locations it has adhered to the steel pipe surface. The Prudhoe Bay industrial hygienist tested the mastic for asbestos and on August 20, 2006 received results from the EPA-accredited lab that the mastic contained 5% to 10% asbestos content. This is an emergency inspection and maintenance operation, not a scheduled abatement.
3. Explanation of how the event caused unsafe conditions or equipment damage or an unreasonable financial burden.
   Not Applicable as the emergency is caused by the Department of Transportation Order to perform inspection of the pipeline.

XVI. Description of procedures to be followed in the event that unexpected RACM is found or non-friable ACM becomes crumbled, pulverized or reduced to powder.

A procedure has been developed to ensure asbestos is not released to the environment and that workers are properly protected (see enclosed procedure).

XVII. I certify that an individual trained in the provisions of NESHAP (40 CFR PART 61, SUBPART M) will be on-site during the Demolition or Renovation and evidence that the required training has been accomplished by this person will be available during normal business hours.

Signature of Owner/Operator	10/12/06 Date	Type or Print Name and Title

XVIII. I acknowledge the existence of laws prohibiting the submission of false or misleading statements and I certify that facts contained in this notification are true, accurate, and complete.

Signature of Owner/Operator	10/12/06 Date	Type or Print Name and Title

bp

BP Exploration (Alaska) Inc.
900 East Benson Boulevard
P.O. Box 196612
Anchorage, Alaska 99519-6612
(907) 561-5111

October 23, 2006

RECEIVED
OCT 24 2006
EPA
ANCHORAGE A00/A

Ms. Michele Wright
US Environmental Protection Agency Region 10
1200 Sixth Avenue
Seattle, WA 98101

Re: Fifth Revision to Emergency Notification for Removal of Asbestos Containing Material

Dear Ms. Wright:

BP Exploration (Alaska) Inc. (BPXA) is submitting a fifth revision to our emergency notification for the removal of asbestos-containing insulation coating from pipelines in the Prudhoe Bay Field.

This revision corrects an inaccuracy in the description of "present use" for the pipelines included in the notification, some carry crude oil, others carry hydrocarbons and/or associated fluids. The revision also adds another 3,000 ft of pipeline, less than 20% of our previous linear footage.

Please call Anne-Christine Aycaguer (907-564-4313) for additional information.

Sincerely,

Len Seymour

Len Seymour
North Slope HSE Manager

Cc:
John Pavitt, EPA anchorage Office
Anita Frankel, EPA Region 10 Seattle
Patrick Wallace, EPA Region 10 Seattle
Carl Lautenberger, EPA Anchorage Office
Bob Blankenburg, ADEC
Lori Aldrich, ADEC

U.S. ENVIRONMENTAL PROTECTION AGENCY - STATE OF ALASKA
NOTIFICATION OF DEMOLITION AND RENOVATION

Operator Project #	Postmark	Date Received	Notification #

I. Type of Notification (check one): ☐ Original ☒ Revised ☐ Canceled

II. Facility Description (include building name, number, and floor or room number)

Building Name: Various pipelines operated by BP Exploration Alaska, Inc at Prudhoe Bay

Address: BP Exploration Alaska, Inc., PO Box 196612

City: Anchorage State: AK Zip Code: 99519 County: None

Site Location (specific): Prudhoe Bay, Alaska

Building Size (square feet): N/A # of Floors: N/a Age in Years: 29

Present Use: Transportation of hydrocarbons and associated fluids Prior Use: None

III. Type of Operation (check one) ☐ Demo ☐ Ordered Demo ☐ Renovation ☒ **Emergency Renovation** ☐ Fire Training

IV. Is Asbestos Present? (check one): ☒ Yes ☐ No

V. Facility Information

Owner Name: BP Exploration (Alaska) Inc.

Address: PO Box 196612

City: Anchorage State: Alaska Zip Code: 99519

Contact: Mike Taylor/Laura Dickie, Industrial Hygienist Telephone (907) – 659-4470 Fax: 907-659-4467

Removal Contractor Name: CCI, Inc License #

Address: 800 Cordova St., Suite 102

City: Anchorage, State Alaska Zip Code: 99501

Contact: Nick Kuhlmann Telephone (907) 258-5755 Fax:

Removal Contractor Name: VECO License #

Address: 949 E. 36th Avenue

City: Anchorage State Alaska Zip Code: 99508

Contact: Amanda Finnegan Telephone 907-762-1193 Fax: 907-762-1194

Removal Contractor Name: White Environmental License #

Address: 731 I street

City: Anchorage State Alaska Zip Code: 99501

Contact: Matt White Telephone 907-258-8661 Fax:

Removal Contractor Name: Environ License #

Address: 214 Carnegie Center

City: Princeton State New Jersey Zip Code: 08540-6284

Contact: Christopher R. Zwiebel Telephone 570-443-9422 Fax: 570-443-0482

Removal Contractor Name: PENCO Pacific Environmental License #

Address: 6000 A Street

City: Anchorage State Alaska Zip Code: 99518

Contact: Richard Wilson Telephone 907-562-5420 Fax: 907-562-5426

Other Operator (demolition/general) CCI (Deadhorse office contacts) License #

Address: Prudhoe Bay Hotel; Office A-100

City: Prudhoe Bay State Alaska Zip Code: 99734

Contact: Jon Lervig, Ken Fitzgerald Telephone (907) 659-2428 Fax: (907) 659 -2446

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	RACM to be Removed	Non-friable Asbestos Material to be Removed		Non-friable Asbestos Material NOT to be Removed	
		Category I	Category II	Category I	Category II
Pipes (linear feet)	0	0	~ 33,000 ft	0	0
Surface area of mastic (ft^2)	Some RACM might be generated as a result of removal activities of the category II non-friable asbestos, although efforts will be focused on limiting generation of RACM.	0	~ 284,000 ft^2 90% or more of the mastic is removed along with the insulation, some mastic remains on the pipe in spots and is removed through more hands-on methods (see procedure)	0	0
Facility Components (cubic feet)	0	0	0	0	0

VIII. Scheduled Dates Demolition or Renovation: Start: 8/22/2006 Complete: 12/31/2006

IX. Dates for Asbestos Removal (MM/DD/YY) Start: 8/22/2006 Complete: 12/31/2006

Days of the Week:	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Hours of Operation:	24	24	24	24	24	24	24

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XII. Waste Transporter #1

Name: ICE Services

Address: Pouch 34004e

City:	Prudhoe Bay	State:	Alaska	Zip Code:	99734
Contact:	Rich Helinski and Richard Cox	Telephone:	907-659 0114	Fax:	907 659 2454-

Waste Transporter #2

Name:	CCI, Inc.				
Address:	Prudhoe Bay Hotel, Office A100				
City:	Deadhorse	State:	Alaska	Zip Code:	99734
Contact:	John Lervig/Ken Fitzgerald	Telephone:	(907) 659-2428	Fax:	907-659 -2446

Waste Transporter #3

Name:	Carlile Transportation Systems Inc				
Address:	1800 East 1st Avenue				
City:	Anchorage	State:	Alaska	Zip Code:	99501
Contact:	Lisa Marquiss	Telephone:	(907) 276-7797	Fax:	907-278-7301

XIII. Waste Disposal

Name: North Slope Borough landfill for category II non-friable (see contact and address below), Fairbanks North Star Borough for any RACM (contact and address: Sanduri Road, Fairbanks, Alaska, 99701, Phone: 907-459-1482, Fax: 907-4591017, Contact is Bob Jordan)

Address:					
City:	Prudhoe Bay	State:	Alaska	Zip Code:	99734
Contact:	Rich Helinski	Telephone:	(907) 448-1516	Fax:	907-659-2454

XIV. Emergency Demolition (complete Item XIV and all other sections, only if this project is an Emergency Demo.)

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2. Name of Authority Issuing Order: Title:
3. Authority of Order (Citation of Code):
4. Date of Order (MM/DD/YY): Date Ordered to Begin

XV. Emergency Renovation (See separate sheet attached)

1. Date and Hour of the Emergency: August 20, 2006
2. Description of the sudden, unexpected event:
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XVII. I certify that an individual trained in the provisions of NESHAP (40 CFR PART 61, SUBPART M) will be on-site during the Demolition or Renovation and evidence that the required training has been accomplished by this person will be available during normal business hours.

Len Seymour — Signature of Owner/Operator

10/23/06 — Date

Len Seymour HSE Gas Mgr — Type or Print Name and Title

XVIII. I acknowledge the existence of laws prohibiting the submission of false or misleading statements and I certify that facts contained in this notification are true, accurate, and complete.

Len Seymour — Signature of Owner/Operator

10/23/06 — Date

Len Seymour HSE Gas Mgr — Type or Print Name and Title

EPA
U.S Environmental Protection Agency
Region 4 - Air, Pesticides, and Toxics

Common Questions on the Asbestos NESHAP

INTRODUCTION

The Clean Air Act (CAA) requires the U. S. Environmental Protection Agency (EPA) to develop and enforce regulations to protect the general public from exposure to airborne contaminants that are known to be hazardous to human health. In accordance with Section 112 of the CAA, EPA established National Emissions Standards for Hazardous Air Pollutants (NESHAP) to protect the public. Asbestos was one of the first hazardous air pollutants regulated under Section 112. On March 31, 1971, EPA identified asbestos as a hazardous pollutant, and on April 6, 1973, EPA first promulgated the Asbestos NESHAP in 40 CFR Part 61.

In 1990, a revised NESHAP regulation was promulgated by EPA. Information contained in this pamphlet is consistent with the amended regulation. This pamphlet answers the most commonly asked questions about the Asbestos NESHAP for demolitions and renovations. Many of the questions included in this pamphlet have been raised by demolition and renovation contractors in recent years. Most questions relate to how a demolition or renovation contractor or building owner can best comply with the regulation. The responses assume that the questioner has a basic understanding of the Asbestos NESHAP and demolition and renovation practices. A brief glossary of terms is also included at the back of the pamphlet.

The Asbestos NESHAP regulations protect the public by minimizing the release of asbestos fibers during activities involving the processing, handling, and disposal of asbestos-containing material. Accordingly, the Asbestos NESHAP specifies work practices to be followed during demolitions and renovations of all structures, installations, and buildings (excluding residential buildings that have four or fewer dwelling units). In addition, the regulations require the owner of the building and/or the contractor to notify applicable State and local agencies and/or EPA Regional Offices before all demolitions, or before renovations of buildings that contain a certain threshold amount of asbestos.

For more information about the Asbestos NESHAP or for answers to questions not covered in this pamphlet, contact the delegated State or local agency or the appropriate EPA Regional Office.

renovation?

These materials should be evaluated on a case-by-case basis. If category II non-friable materials are likely to become crushed, pulverized or reduced to powder during demolition or renovation, they should be removed before demolition or renovation begin. For example, A/C (asbestos cement) siding on a building that is going to be demolished with a wrecking ball should be removed because it is likely that the siding will be pulverized by the wrecking ball.

Does non-friable waste, if broken, damaged, etc., have to be wetted and contained?

Non-friable ACM that has been damaged during a demolition or renovation operation such that some portions of the material are crumbled, pulverized or reduced to powder is covered by the Asbestos NESHAP if the facility contains more than the threshold amount of RACM. However, category II non-friable ACM that has a high probability of being damaged by the demolition or renovation forces expected to act on the materials such that it will be crumbled, pulverized, or reduced to powder must be removed prior to the demolition or renovation operation. It is the owner's or operator's responsibility to make these determinations.

Transport and Disposal

How should I handle bulk waste from a facility that contained RACM and that was not found until after demolition began?

The demolition debris must be treated as asbestos-containing waste. Adequately wet the demolition debris until collected for disposal and during loading, transport it in covered vehicles and emit no visible emissions to the outside air as required by 61.150. The waste must be deposited at an acceptable waste disposal site.

Can I transport bulk asbestos waste without placing it in containers as long as I keep the waste pile wet?

No. After wetting, seal all asbestos-containing waste material in leak-tight containers while wet and label with the appropriate signs and labels. If the waste will not fit into containers, it must be placed in leak-tight wrapping.

However, for facilities that are demolished without removing the RACM and for ordered demolitions, the material must be adequately wet after the demolition has occurred and again when loading the material for transport to a disposal site. RACM covered by this paragraph may be transported in bulk without being placed in leak-tight containers or wrapping.

How should I label asbestos-containing waste that is being taken away from the facility?

You should label the containers or wrapped materials with the name of the waste

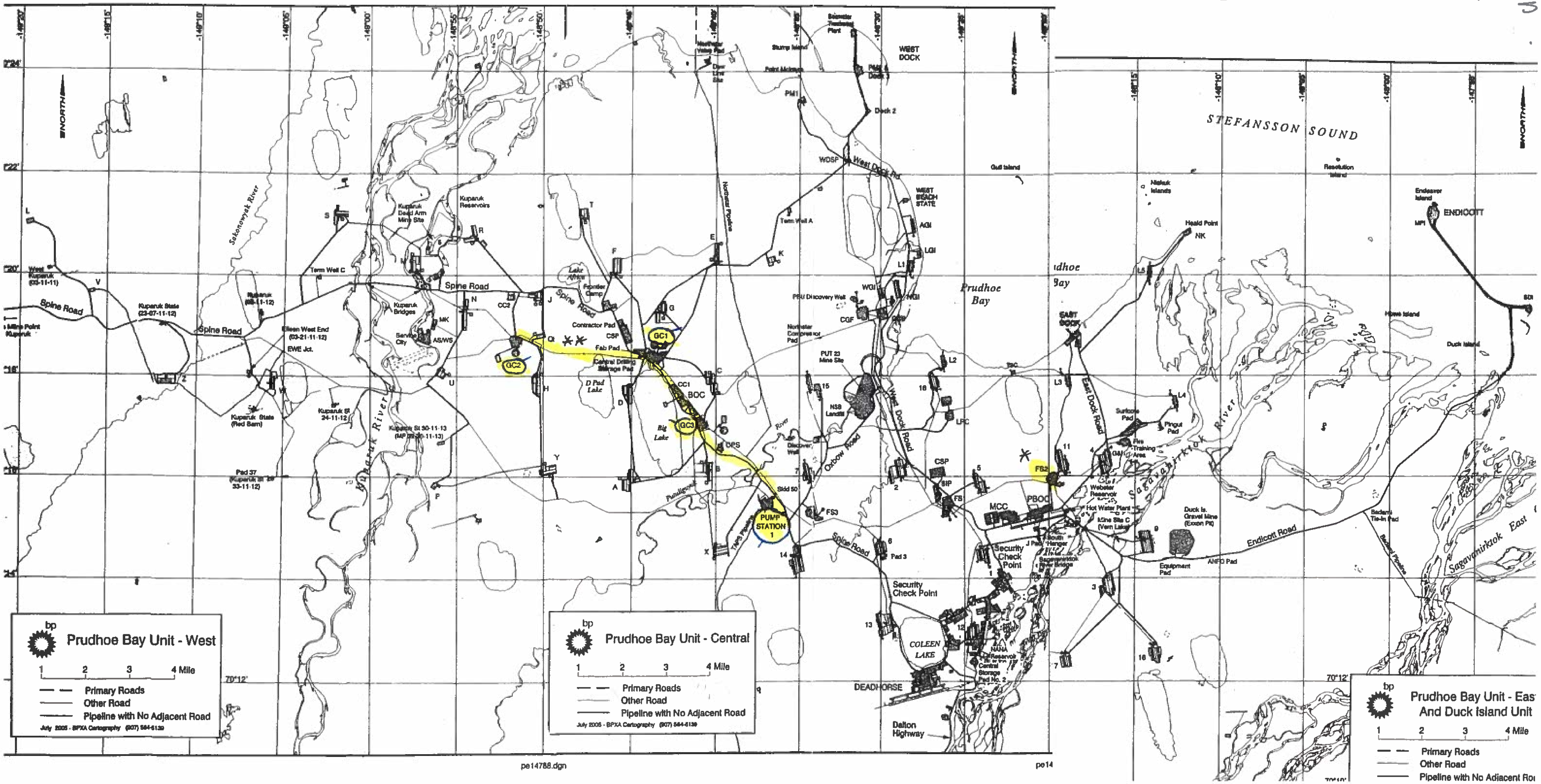
Timeline f Events Starting August 20th, 2006

Date(s)	Event	Pertinent Facts
Aug. 20, 2006	Asbestos contractor sees Oil Transit Line (OTL) insulation in dumpster, recommends testing for asbestos	Contractor had seen similar mastic on previous non-BP job
Aug. 21, 2006	Mastic contains 5-10% asbestos	Insulation removal and UT work stopped
Aug. 22, 2006	Mastic removal re-created using certified workers.	Air samples collected to assess exposure
Aug. 25, 2006	Alaska OSHA opens enforcement investigation	
Aug. 25, 2006	40 hour asbestos training begins on slope	State regulations require 40 hour training for asbestos removal
Aug. 25, 2006	Initial version of insulation/mastic removal procedure written	
Aug. 25, 2006	Emergency notification of asbestos removal sent to EPA	
Aug. 27, 2006	Waste Management Plan for transit line insulation written	
Aug. 28, 2006	First 40 hour classes completed	VECO and CCI workers trained
Aug. 28 – Sept. 8, 2006	Multiple 8-hour asbestos awareness classes completed on the Slope	Training intended for UT worker and others not doing removal
Aug. 30, 2006	BP sends contract to VECO for insulation and mastic removal	
Sept. 1, 2006	Briefing held with contractor management in Anchorage	Asbestos results shared, hotline number, call center established
Sept. 1, 2006	Alaska Abatement and CCI submitted initial asbestos notification to Dept of Labor	Notification approved same day
Sept. 1, 2006	Email sent to all slope users instructing them to assume all insulation and mastic to be asbestos containing	Sent to all facilities by GPB and ACT BUL's
Sept. 2, 2006	Alaska Abatement employees attend NSTC training in Anchorage	
Sept. 3, 2006	Alaska Abatement employees travel to North Slope	

Date(s)	Event	Pertinent Facts
Sept. 3, 2006	Collection of previously removed transit line insulation begins by CCI workers	Work follows procedure and air samples are collected
Sept. 3 -5, 2006	Small crew of Alaska Abatement workers remove insulation and mastic from transit lines	Work follows BP insulation and mastic removal procedure
Sept. 5, 2006	Investigation team formed	
Sept. 7, 2006	VECO signs contract for insulation and mastic removal	
Sept. 7 – 11, 2006	Resolution of asbestos insurance issues for VECO, completion of medical exams, X-rays, certificate numbers issued from Dept of Labor	Insurance company required that all medical provisions be satisfied prior to work, although not required by regulation
Sept. 11, 2006	VECO crews resume insulation removal from transit lines	

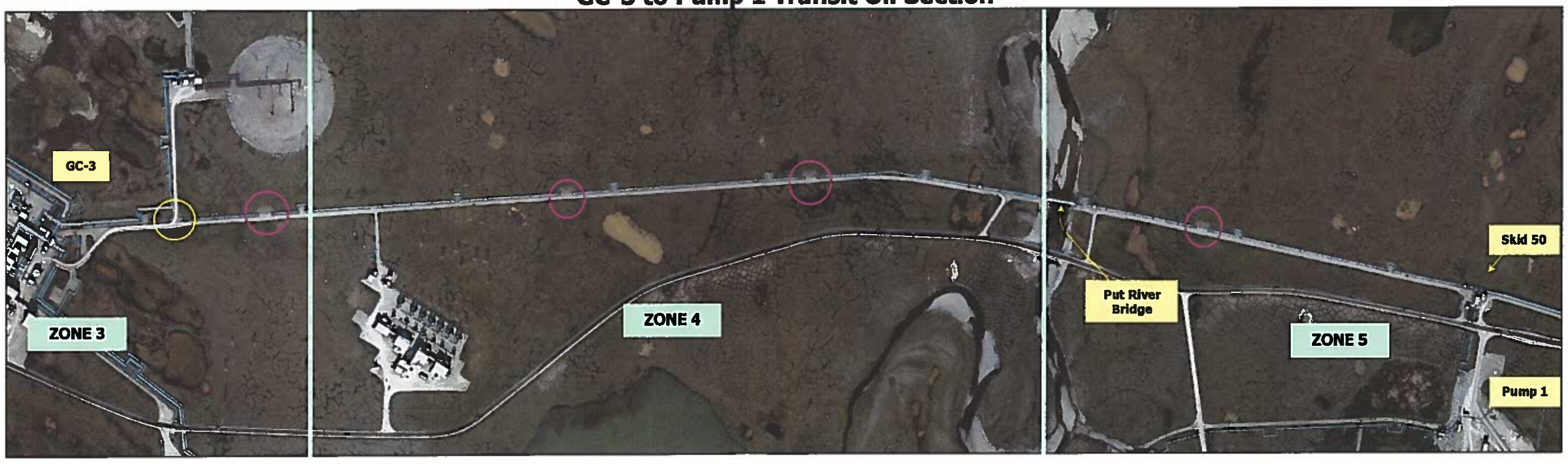
* FS 2: Site of Aug. 2006 Spill

** GC-1 to GC-2: Site of MAR. 2, 2006 Spill.



GC-1 to GC-3 Transit Oil Section

GC-3 to Pump 1 Transit Oil Section



U.S. ENVIRONMENTAL PROTECTION AGENCY - STATE OF ALASKA
NOTIFICATION OF DEMOLITION AND RENOVATION

Operator Project #	Postmark	Date Received	Notification #

I. Type of Notification (check one): ☒ Original ☐ Revised ☐ Canceled

II. Facility Description (include building name, number, and floor or room number)

Building Name: Miscellaneous Buildings in the Prudhoe Bay Oilfield **Blanket Annual Notification**

Address: PO Box 196612

City: Anchorage State: AK Zip Code: 99519 County: None

Site Location (specific): Prudhoe Bay, Alaska

Building Size (square feet): Various # of Floors: Various Age in Years: 21-31

Present Use: Crude oil production facilities and camps Prior Use: None

III. Type of Operation (check one) ☐ Demo ☐ Ordered Demo ☒ **Renovation** ☐ Emergency Renovation ☐ Fire Training

IV. Is Asbestos Present? (check one): ☒ Yes ☐ No

V. Facility Information

Owner Name: BP Exploration (Alaska) Inc.

Address: PO Box 196612

City: Anchorage State: Alaska Zip Code: 99519

Contact: Laura Dickie, Industrial Hygienist Telephone (907) – 659-4470 Fax: 907-659-4467

Removal Contractor Name: CCI, Inc License #

Address: 800 Cordova St., Suite 102

City: Anchorage, State Alaska Zip Code: 99501

Contact: Nick Kuhlman Telephone (907) 258-5755 Fax:

Other Operator (demolition/general) CCI (Deadhorse office contacts) License #

Address: Prudhoe Bay Hotel; Office A-100

City: Prudhoe Bay State Alaska Zip Code: 99734

Contact: Jon Lervig, Ken Fitzgerald Telephone (907) 659-2428 Fax: (907) 659 -2446

VI. Procedure, including analytical methods, employed to detect the presence of and to estimate the quantity of RACM and Category I and Category II non-friable ACM:

Inspections of our facilities have been completed by EPA accredited asbestos building inspectors in accordance with 29 CFR 1910.1101(j)(2). Before we begin a maintenance project in an area that may contain asbestos materials, the asbestos inspection reports are reviewed. If uncertainty remains, additional inspection by an accredited inspector is completed before the disturbance of suspect materials.

VII. Approximate Amount of Asbestos Materials:

	RACM to be Removed (Specific projects undetermined)	Non-friable Asbestos Material to be Removed		Non-friable Asbestos Material NOT to be Removed	
		Category I	Category II	Category I	Category II
Pipes (linear feet)	100	0	0	Unknown	Unknown
Surface Area (square feet)	1000	250	250	Unknown	Unknown
Facility Components (cubic feet)	200	50	50	Unknown	Unknown

VIII. Scheduled Dates Demolition or Renovation: Start: 1/01/2006 Complete: 12/31/2006

IX. Dates for Asbestos Removal (MM/DD/YY) Start: 1/01/2006 Complete: 12/31/2006

Days of the Week:	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Hours of Operation:	24	24	24	24	24	24	24

Complete all unshaded spaces, except demolitions which involve less than 260 linear feet, 160 square feet, or 35 cubic feet of RACM, need not complete spaces VII, XI,XII,XIII,XIV, and XV. Notifications for Emergency Demolition or Emergency Renovation must supply attachments.

X. Description of planned Demolition or Renovation work to be performed and method(s) to be employed, including demolition or renovation techniques to be used and description of affected facility components:

Specific projects will depend on maintenance requirements, and will be developed throughout the year.

Methods will be determined by the BP Certified Industrial Hygienist (who is also EPA accredited for asbestos project design). Methods will conform to the requirements of the OSHA Construction Standard for Asbestos for the particular class of work. Removals will be done by Alaska Certified Asbestos Workers. All waste is to be shipped and tracked through the Prudhoe Bay Waste Coordinator's office (Larry Raburn).

XI. Description of work practices and engineering controls to be used to comply with the requirements, including asbestos removal and waste handling emission control procedures:

Methods will conform to the requirements of the OSHA Construction Standard for Asbestos for the particular class of work. Removals will be done by Alaska Certified Asbestos Workers.

XII. Waste Transporter #1

Name:	Lyndon Transport				
Address:	9027 Ramport Drive				
City:	Anchorage	State:	Alaska	Zip Code:	
Contact:	Dispatcher	Telephone:	907-276-4800	Fax:	()-

Waste Transporter #2

Name:	CCI, Inc.				
Address:	Prudhoe Bay Hotel, Office A100				
City:	Deadhorse	State:	Alaska	Zip Code:	99734
Contact:	John Lervig/Ken Fitzgerald	Telephone:	(907) 659-2428	Fax:	907-659 -2446

XIII. Waste Disposal

Name:	Fairbanks North Star Borough				
Address:	Sanduri Road				
City:	Fairbanks	State:	Alaska	Zip Code:	99701
Contact:	Bob Jordan	Telephone:	(907) 459-1482	Fax:	907-459-1017

XIV. Emergency Demolition (complete Item XIV and all other sections, only if this project is an Emergency Demo.)

1. Attach a copy of the Order to this notice.
2. Name of Authority Issuing Order: _____ Title: _____
3. Authority of Order (Citation of Code): _____
4. Date of Order (MM/DD/YY): _____ Date Ordered to Begin

XV. Emergency Renovation (Attach separate sheet with the following information if project is Emergency Demo.)

1. Date and Hour of the Emergency:
2. Description of the Sudden, Unexpected Event:
3. Explanation of how the event caused unsafe conditions or equipment damage or an unreasonable financial burden.

XVI. Description of procedures to be followed in the event that unexpected RACM is found or non-friable ACM becomes crumbled, pulverized or reduced to powder.

Any such materials will be repaired, encapsulated, removed, or cleaned up in the same manner as described above.

XVII. I certify that an individual trained in the provisions of NESHAP (40 CFR PART 61, SUBPART M) will be on-site during the Demolition or Renovation and evidence that the required training has been accomplished by this person will be available during normal business hours.

Signature of Owner/Operator	Date	Type or Print Name and Title
Michael Taylor	12/20/05	Michael S. Taylor, CIH,PE

XVIII. I acknowledge the existence of laws prohibiting the submission of false or misleading statements and I certify that facts contained in this notification are true, accurate, and complete.

Signature of Owner/Operator	Date	Type or Print Name and Title
Michael Taylor	12/20/05	Michael S. Taylor, CIH, PE

Original Notification must be mailed or hand delivered at least ten working days (Monday-Friday excluding weekends) before demolition or renovation begins, except emergency demolitions and emergency renovations (see regulation) which must be submitted as soon as possible before operations begin. (Form Revised 3/24/99)

WEC WHITE ENVIRONMENTAL CONSULTANTS INC.
731 I St., Suite 203, Anchorage, AK 99501-
(907) 258-8661
FAX: (907) 258-8662

NVLAP®
Lab #: 200124-0

Bulk Sample Analysis for Asbestos

WEC Project #: 06G-415
Client Project#:

Report #: 35551
Report By: M.Tarkington
Report Date: 9/5/2006

Client: BP Exploration
Accounts Payable
Anchorage, AK 99519-6611

Collection Date: 8/31/2006
Collection By: M.White
TAT: RUSH
Analysis By: B.Carroll
Analysis Date: 9/1/2006
Received By: Carroll
Received Date: 9/2/2006

Samples: 15 # Layers: 18

Project Name/Location: BP Pipeline

Client ID#	WEC ID#	Location	Material	Layer
83106-415-01	B06-4143	Flow line one OT tie line East end	Mastic	1 of 1

ASBESTOS
None Detected
Other Fibrous Materials: Cellulose <1%
% Other Fibrous Materials: <1%
% Non-Fibrous Materials: 100%
Homogenous: No
Color: Black

Client ID#	WEC ID#	Location	Material	Layer
83106-415-02	B06-4144A	Flow line one OT tie line East end STATION	Mastic	1 of 2

ASBESTOS
None Detected
Other Fibrous Materials
% Non-Fibrous Materials: 100%
Homogenous: No
Color: Black
None Detected

Client ID#	WEC ID#	Location	Material	Layer
83106-415-02	B06-4144B	Flow line one OT tie line East end FS-1	Tape	2 of 2

ASBESTOS
None Detected
Other Fibrous Materials
% Non-Fibrous Materials: 100%
Homogenous: No
Color: White
None Detected

Client ID#	WEC ID#	Location	Material	Layer
83106-415-03	B06-4145	Flow station on OT tie line- station 16+2 at anchor	Caulk	1 of 1

ASBESTOS
None Detected
Other Fibrous Materials
% Non-Fibrous Materials: 100%
Homogenous: No
Color: Silver
None Detected

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FAX: (907) 258-8662

NVLAP® Lab #: 200124-0

Bulk Sample Analysis for Asbestos

WEC Project #: 06G-415
Client Project#:

Report #: 35551
Report By: M.Tarkington
Report Date: 9/5/2006

Client ID#	WEC ID#	Location	Material	Layer
83106-415-04	B06-4146	From rigid foam elbows	Mastic	1 of 1

ASBESTOS: None Detected
Other Fibrous Materials: None Detected
% Non-Fibrous Materials: 100%
Homogenous: No
Color: Black
Sample Comments: Mastic is adheard to nonfiberous urethane insulation

Client ID#	WEC ID#	Location	Material	Layer
83106-415-05	B06-4147A	CoTu hot tap location	Mastic	1 of 2

ASBESTOS: None Detected
Other Fibrous Materials: None Detected
% Non-Fibrous Materials: 100%
Homogenous: No
Color: Black

Client ID#	WEC ID#	Location	Material	Layer
83106-415-05	B06-4147B	CoTu hot tap location	Tape	2 of 2

ASBESTOS: None Detected
Other Fibrous Materials: None Detected
% Non-Fibrous Materials: 100%
Homogenous: No
Color: White

Client ID#	WEC ID#	Location	Material	Layer
83106-415-06	B06-4148A	CoTu pipeline at 21+31	Mastic	1 of 2

ASBESTOS: None Detected
Other Fibrous Materials: Cellulose <1%
% Other Fibrous Materials: <1%
% Non-Fibrous Materials: 100%
Homogenous: No
Color: Black

Client ID#	WEC ID#	Location	Material	Layer
83106-415-06	B06-4148B	CoTu pipeline at 21+31	Tape	2 of 2

ASBESTOS: None Detected
Other Fibrous Materials: None Detected
% Non-Fibrous Materials: 100%
Homogenous: No
Color: Black

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FAX: (907) 258-8662

NVLAP® Lab #: 200124-0

Bulk Sample Analysis for Asbestos

WEC Project #: 06G-415
Client Project#:

Report #: 35551
Report By: M.Tarkington
Report Date: 9/5/2006

Client ID#	WEC ID#	Location	Material	Layer
83106-415-07	B06-4149	CoTu pipeline at 31+25	Tape	1 of 1

ASBESTOS
None Detected
Other Fibrous Materials
% Non-Fibrous Materials: 100%
Homogenous: No
Color: Black
None Detected

Client ID#	WEC ID#	Location	Material	Layer
83106-415-08	B06-4150	CoTu pipeline at 31+25	Tape	1 of 1

ASBESTOS
None Detected
Other Fibrous Materials
% Non-Fibrous Materials: 100%
Homogenous: No
Color: Black
None Detected

Client ID#	WEC ID#	Location	Material	Layer
9106-415-01	B06-4151	503 valve GCI GC-1	Mastic	1 of 1

ASBESTOS
Chrysotile 4%
% Asbestos: 4%
Other Fibrous Materials
% Non-Fibrous Materials: 96%
Homogenous: No
Color: Black
None Detected

Client ID#	WEC ID#	Location	Material	Layer
9106-415-02	B06-4152	OT 13 4" Bypass N70 18.379 W 148.44.110	Mastic	1 of 1

ASBESTOS
Chrysotile 8%
% Asbestos: 8%
Other Fibrous Materials
% Non-Fibrous Materials: 92%
Homogenous: No
Color: Black
None Detected

Client ID#	WEC ID#	Location	Material	Layer
9106-415-03	B06-4153	GCI 24" OT N 70 18.375 W 148 44.138	Mastic	1 of 1

ASBESTOS
Chrysotile 10% GC-1
% Asbestos: 10%
Other Fibrous Materials
% Non-Fibrous Materials: 90%
Homogenous: No
Color: Black
None Detected

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NVLAP® Lab #: 200124-0

Bulk Sample Analysis for Asbestos

WEC Project #: 06G-415
Client Project#:

Report #: 35551
Report By: M.Tarkington
Report Date: 9/5/2006

Client ID#	WEC ID#	Location	Material	Layer
9106-415-04	B06-4154	34" OT line GCI N 70 18.375 w148 44.138	Mastic	1 of 1

ASBESTOS: Chrysotile 8%
% Asbestos: 8%
% Non-Fibrous Materials: 92%
Other Fibrous Materials: None Detected
Homogenous: No
Color: Black

Client ID#	WEC ID#	Location	Material	Layer
9106-415-05	B06-4155	On saddle at station 5469 N 7018.452 W148.48945	Mastic	1 of 1

ASBESTOS: Chrysotile 6%
% Asbestos: 6%
% Non-Fibrous Materials: 94%
Other Fibrous Materials: None Detected
Homogenous: No
Color: Black

Client ID#	WEC ID#	Location	Material	Layer
9106-415-06	B06-4156	Leak site N 78 18.452 W 148.48948	Mastic	1 of 1

ASBESTOS: Chrysotile 8%
% Asbestos: 8%
% Non-Fibrous Materials: 92%
Other Fibrous Materials: None Detected
Homogenous: No
Color: Black

Client ID#	WEC ID#	Location	Material	Layer
9106-415-07	B06-4157	Leak site N 78 18.452 W 148 48.930	Mastic	1 of 1

ASBESTOS: Chrysotile 10%
% Asbestos: 10%
% Non-Fibrous Materials: 90%
Other Fibrous Materials: None Detected
Homogenous: No
Color: Black

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Lab #: 200124-0

Bulk Sample Analysis for Asbestos

WEC Project #: 06G-415
Client Project#:

Report #: 35551
Report By: M.Tarkington
Report Date: 9/5/2006

Bobby Carroll, Lab Analyst — Date 9/5/2006

Travis Hubbard, Quality Control Manager — Date 9/5/2006

Analysis performed by EPA Method 600/R-93/116. All quantities reported are based on visual estimation by PLM, unless point-counting method is requested and noted for the sample. Test report relates only to items tested and must not be used by client to claim product endorsement by NVLAP or any agency of the U.S. Government. Test reports must not be reproduced without the approval of WEC Inc., and are subject to WEC Inc. General Terms and Conditions (see reverse).

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731 I St. Ste. 201, Anchorage AK 99501
Phone: (907) 258-8661 (907) 258-8662

PROJECT NAME BP PIPELINE
LOCATION PRUDHOE BAY AK PROJECT NO. 06 CSULT 4
CLIENT BP DATE 9/1/06
CLIENT PROJECT# SHEET NO. 1 OF

CHAIN OF CUSTODY RECORD – ANALYTICAL REQUEST

ANALYSIS REQUESTED (circle) PCM (PLM) TEM LEAD	TURNAROUND REQUESTED RUSH	NO. OF SAMPLES 15	COLLECTION DATE: 8/31 9/1 06
RELINQUISHED BY:	DATE/TIME 9/1/06	SAMPLES RECEIVED BY	DATE/TIME 9.2.06
SHIPPING METHOD	COURIER (signature)	SAMPLES RECEIVED BY	DATE/TIME
COMMENTS			

BULK SAMPLES AT EOA TIE-IN POINTS

SEND RESULTS TO BOTH → FAX 659 4467
→ TAYLORM4@bp.com
MIKE TAYLOR

FLOW STATION ONE OT TIE LINE

EOA TIE IN POINTS

SAMPLE ID#	MATERIAL	LOCATION	COMMENTS
83106-415-01	MASTIC	[redacted] EAST END	EAST END
83106-415-02	MASTIC / TAPE	EAST END	
83106-415-03	CAULK	STATION 1642 @ANCHOR	
83106-415-04	MASTIC	FROM RIDGID FOAM ELBOWS	
83106-415-05	MASTIC / TAPE	COTU HOT TAP LOCATION	
83106-415-06	MASTIC / TAPE	COTU PIPELINE @ 21+31	
83106-415-07	TAPE	COTU PIPELINE @ 30+25	
83106-415-08	TAPE	COTU PIPELINE	
9106-415-01	MASTIC	503 VALVE GCI	BLACK/GRAY
9106-415-02	MASTIC	OT 13 4" BYPASS N 70 18.379 W 148 44.110	
9106-415-03	MASTIC	GCI 24" OT N 70 18.388 W 148 44.109	
9106-415-04	MASTIC	34" OT LINE GCI N 70 18.375 W 148 44.138	
9106-415-05	MASTIC	ON SADDLE @ N 70 18.452 W 148.48 945	STATION 5409
9106-415-06	MASTIC	LEAK SITE N 70 18 452 W 148 48 948	
9106-415-07	MASTIC	LEAK SITE N 70 18 457 W 148 48 930	

WHITE ENVIRONMENTAL CONSULTANTS INC.
731 I St. Ste. 201, Anchorage AK 99501
Phone: (907) 258-8661 (907) 258-8662

PROJECT NAME BP PIPELINE
LOCATION PRUDHOE BAY AK PROJECT NO. 06 COLT 4
CLIENT BP DATE 9/1/06
CLIENT PROJECT # SHEET NO. 1 OF

CHAIN OF CUSTODY RECORD – ANALYTICAL REQUEST

ANALYSIS REQUESTED (circle) PCM PLM TEM LEAD	TURNAROUND REQUESTED RUSH	NO. OF SAMPLES 15	COLLECTION DATE: 8/31 9/1 06
RELINQUISHED BY:	DATE / TIME 9/1/06	SAMPLES RECEIVED BY	DATE / TIME 9.2.06
SHIPPING METHOD	COURIER (signature)	SAMPLES RECEIVED BY	DATE / TIME

COMMENTS

SEND RESULTS TO BOTH → FAX 659 4467
→ TAYLORM4@bp.com.
MIKE TAYLOR

Asbestos %

FLOW STATION ONE OT TIE LINE

SAMPLE ID#	MATERIAL	LOCATION	COMMENTS
None 83106-415-01	MASTIC	[redacted] FROM [redacted] EAST SIDE	EAST SIDE
None 83106-415-02	MASTIC / TAPE	EAST SIDE	
None 83106-415-03	CAULK	STATION 16+2 @ ANCHOR	
None 83106-415-04	MASTIC	FROM RIGID FOAM ELBOWS	
None 83106-415-05	MASTIC / TAPE	COTU HOT TAP LOCATION	
None 83106-415-06	MASTIC / TAPE	COTU PIPELINE @ 21+31	
None 83106-415-07	TAPE	COTU PIPELINE @ 30+25	
None 83106-415-08	TAPE	COTU PIPELINE	
4% 9106-415-01	MASTIC	503 VALVE GC1	BLACK / GRAY
8% 9106-415-02	MASTIC	OT 13 4" BYPASS N 70 18.379 W 148 44.110	
10% 9106-415-03	MASTIC	GC1 24" OT N 70 18.388 W 148 44.109	
8% 9106-415-04	MASTIC	34" OT LINE GC1 N 70 18.375 W 148 44.138	
6% 9106-415-05	MASTIC	ON SADDLE @ N 70 18.452 W 148.48.945	STATION 5469
8% 9106-415-06	MASTIC	LEAK SITE N 70 [illegible] W 148 48 948	
10% 9106-415-07	MASTIC	LEAK SITE N 70 18 457 W 148 48 930	

All positive samples contained chrysotile

WASTE SHIPMENT MANIFEST
FNSB LANDFILL

(16) Example Form AP A00/A

GENERATOR (COMPLETE 1-8 AFTER ASBESTOS HAS BEEN REMOVED AND PACKAGED FOR SHIPMENT)

1. **Work Site Name & Mailing Address:** BP Exploration (Alaska) Prudhoe Bay, Ak 99734-0000	**Owner's Name:** BP Exploration (Alaska) PO Box 196612 H-6 Anchorage, Ak 99519-6612	**Owner's Telephone #:** (907) 659-4810 Fax # (907) 659 4239
2. **Abatement Operator (Contractor's) Name & Mailing Address:** CCI 111 W. 16th Suite 401 Anchorage, Ak 99503		**Operator's Telephone # : 258-5755** **Fax # : 258-5766**
3. **Waste Disposal Site Name and Mailing Address:** Fairbanks North Star Borough Landfill 455 Sanduri Road, Fairbanks, AK 99701		**Telephone #:** (907) 459-1482 phone (907) 459-1017 fax
4. **Name and Mailing Address of Responsible Agency:** EPA, Region X, Office of Compliance and Enforcement Mail Stop OCE-127 1200 6th Ave., Seattle WA 98101-1128		**Agency Telephone #:** (206) 553-1172

Corrected 9/24/06

5. **Type of Materials:** ☐ Friable ☐ Non-Friable	6. **Number and Type of Containers:** No. Type	7. **Total Cubic Yards of Shipping Containers**

8. **Special Handling Instructions and Additional Information:**

9. **Abatement Operator's (Contractor's) Certification:** I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transportation by highway according to applicable international, Federal and State of Alaska Regulations.

Printed Name & Title	Signature	Month / Day / Year

TRANSPORTER

10. **Transporter 1 (Acknowledgement of Receipt of Materials)**

Company Name, Address & Phone	Printed Name and Title Signature	Month / Day / Year

11. **Transporter 2 (Acknowledgement of Receipt of Materials)**

Company Name, Address & Phone	Printed Name and Title Signature	Month / Day / Year

11A. **Transporter 3 (Acknowledgement of Receipt of Materials)**

Company Name, Address & Phone	Printed Name and Title Signature	Month / Day / Year

DISPOSAL SITE

12. **Discrepancy Indication Space:** ☐ None ☐ Improperly Contained ☐ Improper Labeling ☐ Quantity

13. **Waste Disposal Site or Operator:** Certification of receipt of asbestos materials covered by this manifest except as noted in Item 12

Printed Name & Title	Signature	Month / Day / Year

F-06

WASTE SHIPMENT MANIFEST
FNSB LANDFILL

GENERATOR (COMPLETE 1-8 AFTER ASBESTOS HAS BEEN REMOVED AND PACKAGED FOR SHIPMENT)

1. Work Site Name & Mailing Address: BP Exploration (Alaska) Prudhoe Bay, Ak 99734-0000 ZONE TRASIT LINE	**Owner's Name:** BP Exploration (Alaska) PO Box 196612 H-6 Anchorage, Ak 99519-6612	**Owner's Telephone #:** (907) 659-4810 Fax # (907) 659 4239
2. Abatement Operator (Contractor's) Name & Mailing Address: CCI 111 W. 16th Suite 401 Anchorage, Ak 99503		**Operator's Telephone # : 258-5755** **Fax # : 258-5766**
3. Waste Disposal Site Name and Mailing Address: Fairbanks North Star Borough Landfill 455 Sanduri Road, Fairbanks, AK 99701		**Telephone #:** (907) 459-1482 phone (907) 459-1017 fax
4. Name and Mailing Address of Responsible Agency: EPA, Region X, Office of Air Quality Mail Stop OAQ-107 1200 6th Ave., Seattle WA 98101-1128		**Agency Telephone #:** (206) 553-1172

5. Type of Materials: ☐ Friable ☒ Non-Friable	**6. Number and Type of Containers:** No. 1 Type BAG	**7. Total Cubic Yards of Shipping Containers**

8. Special Handling Instructions and Additional Information:

Double bagged, wet

9. Abatement Operator's (Contractor's) Certification: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transportation by highway according to applicable international, Federal and State of Alaska Regulations.

Printed Name & Title	Signature	Month / Day / Year
NICK KUKLOWSKI for		08/22/06

TRANSPORTER

10. Transporter 1 (Acknowledgement of Receipt of Materials)

Company Name, Address & Phone	Printed Name and Title Signature	Month / Day / Year

11. Transporter 2 (Acknowledgement of Receipt of Materials)

Company Name, Address & Phone	Printed Name and Title Signature	Month / Day / Year

11A. Transporter 3 (Acknowledgement of Receipt of Materials)

Company Name, Address & Phone	Printed Name and Title Signature	Month / Day / Year

DISPOSAL SITE

12. Discrepancy Indication Space: ☐ None ☐ Improperly Contained ☐ Improper Labeling ☐ Quantity

13. Waste Disposal Site or Operator: Certification of receipt of asbestos materials covered by this manifest except as noted in Item 12

Printed Name & Title	Signature	Month / Day / Year

F-06

WASTE SHIPMENT MANIFEST
FNSB LANDFILL

GENERATOR (COMPLETE 1-8 AFTER ASBESTOS HAS BEEN REMOVED AND PACKAGED FOR SHIPMENT)

1. Work Site Name & Mailing Address: BP Exploration (Alaska) Prudhoe Bay, Ak 99734-0000 GCI - Zone 1 Transit line	**Owner's Name:** BP Exploration (Alaska) PO Box 196612 H-6 Anchorage, Ak 99519-6612	**Owner's Telephone #:** (907) 659-4810 Fax # (907) 659 4239
2. Abatement Operator (Contractor's) Name & Mailing Address: CCI 111 W. 16th Suite 401 Anchorage, Ak 99503		**Operator's Telephone # : 258-5755** **Fax # : 258-5766**
3. Waste Disposal Site Name and Mailing Address: Fairbanks North Star Borough Landfill 455 Sanduri Road, Fairbanks, AK 99701		**Telephone #:** (907) 459-1482 phone (907) 459-1017 fax
4. Name and Mailing Address of Responsible Agency: EPA, Region X, Office of Air Quality Mail Stop OAQ-107 1200 6th Ave., Seattle WA 98101-1128		**Agency Telephone #:** (206) 553-1172

5. Type of Materials:	6. Number and Type of Containers:		7. Total Cubic Yards of Shipping Containers
☐ Friable ☒ Non-Friable	No.	Type	
	4	BAGS	

8. Special Handling Instructions and Additional Information:

Double bagged, wet

9. Abatement Operator's (Contractor's) Certification: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transportation by highway according to applicable international, Federal and State of Alaska Regulations.

Printed Name & Title	Signature	Month / Day / Year
TY TAYLOR CCI		8/27/06

TRANSPORTER

10. Transporter 1 (Acknowledgement of Receipt of Materials)

Company Name, Address & Phone	Printed Name and Title Signature	Month / Day / Year

11. Transporter 2 (Acknowledgement of Receipt of Materials)

Company Name, Address & Phone	Printed Name and Title Signature	Month / Day / Year

11A. Transporter 3 (Acknowledgement of Receipt of Materials)

Company Name, Address & Phone	Printed Name and Title Signature	Month / Day / Year

DISPOSAL SITE

12. Discrepancy Indication Space: ☐ None ☐ Improperly Contained ☐ Improper Labeling ☐ Quantity

13. Waste Disposal Site or Operator: Certification of receipt of asbestos materials covered by this manifest except as noted in Item 12

Printed Name & Title	Signature	Month / Day / Year

WASTE SHIPMENT MANIFEST
FNSB LANDFILL

GENERATOR (COMPLETE 1-8 AFTER ASBESTOS HAS BEEN REMOVED AND PACKAGED FOR SHIPMENT)

1. Work Site Name & Mailing Address: BP Exploration (Alaska) Prudhoe Bay, Ak 99734-0000 DTL-13	**Owner's Name:** BP Exploration (Alaska) PO Box 196612 H-6 Anchorage, Ak 99519-6612	**Owner's Telephone #:** (907) 659-4810 Fax # (907) 659 4239
2. Abatement Operator (Contractor's) Name & Mailing Address: CCI 111 W. 16th Suite 401 Anchorage, Ak 99503		**Operator's Telephone # : 258-5755** **Fax # : 258-5766**
3. Waste Disposal Site Name and Mailing Address: Fairbanks North Star Borough Landfill 455 Sanduri Road, Fairbanks, AK 99701		**Telephone #:** (907) 459-1482 phone (907) 459-1017 fax
4. Name and Mailing Address of Responsible Agency: EPA, Region X, Office of Air Quality Mail Stop OAQ-107 1200 6th Ave., Seattle WA 98101-1128		**Agency Telephone #:** (206) 553-1172

5. Type of Materials: ☐ Friable ☑ Non-Friable	**6. Number and Type of Containers:** No. 4 Type BAGS	**7. Total Cubic Yards of Shipping Containers**

8. Special Handling Instructions and Additional Information:
Double bagged and wet

9. Abatement Operator's (Contractor's) Certification: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transportation by highway according to applicable international, Federal and State of Alaska Regulations.

Printed Name & Title	Signature	Month / Day / Year
TY TAYLOR CCI		9-12-06

TRANSPORTER

10. Transporter 1 (Acknowledgement of Receipt of Materials)

Company Name, Address & Phone	Printed Name and Title Signature	Month / Day / Year

11. Transporter 2 (Acknowledgement of Receipt of Materials)

Company Name, Address & Phone	Printed Name and Title Signature	Month / Day / Year

11A. Transporter 3 (Acknowledgement of Receipt of Materials)

Company Name, Address & Phone	Printed Name and Title Signature	Month / Day / Year

DISPOSAL SITE

12. Discrepancy Indication Space: ☐ None ☐ Improperly Contained ☐ Improper Labeling ☐ Quantity

13. Waste Disposal Site or Operator: Certification of receipt of asbestos materials covered by this manifest except as noted in Item 12

Printed Name & Title	Signature	Month / Day / Year

WASTE SHIPMENT MANIFEST
FNSB LANDFILL

GENERATOR (COMPLETE 1-8 AFTER ASBESTOS HAS BEEN REMOVED AND PACKAGED FOR SHIPMENT)

1. **Work Site Name & Mailing Address:** BP Exploration (Alaska) Prudhoe Bay, Ak 99734-0000 OTL-13	**Owner's Name:** BP Exploration (Alaska) PO Box 196612 H-6 Anchorage, Ak 99519-6612	**Owner's Telephone #:** (907) 659-4810 Fax # (907) 659 4239
2. **Abatement Operator (Contractor's) Name & Mailing Address:** CCI 111 W. 16th Suite 401 Anchorage, Ak 99503		**Operator's** **Telephone # : 258-5755** **Fax # : 258-5766**
3. **Waste Disposal Site Name and Mailing Address:** Fairbanks North Star Borough Landfill 455 Sanduri Road, Fairbanks, AK 99701		**Telephone #:** (907) 459-1482 phone (907) 459-1017 fax
4. **Name and Mailing Address of Responsible Agency:** EPA, Region X, Office of Air Quality Mail Stop OAQ-107 1200 6th Ave., Seattle WA 98101-1128		**Agency Telephone #:** (206) 553-1172

5. **Type of Materials:**	6. **Number and Type of Containers:**	7. **Total Cubic Yards of Shipping Containers**
☐ Friable ☑ Non-Friable	No. 3 Type BAGS	

8. **Special Handling Instructions and Additional Information:**
DOUBLE BAGGED & WET

9. **Abatement Operator's (Contractor's) Certification:** I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transportation by highway according to applicable international, Federal and State of Alaska Regulations.

Printed Name & Title	Signature	Month / Day / Year
MARIO RODRIGUEZ		9/14/06

TRANSPORTER

10. **Transporter 1 (Acknowledgement of Receipt of Materials)**

Company Name, Address & Phone	Printed Name and Title Signature	Month / Day / Year

11. **Transporter 2 (Acknowledgement of Receipt of Materials)**

Company Name, Address & Phone	Printed Name and Title Signature	Month / Day / Year

11A. **Transporter 3 (Acknowledgement of Receipt of Materials)**

Company Name, Address & Phone	Printed Name and Title Signature	Month / Day / Year

DISPOSAL SITE

12. **Discrepancy Indication Space:** ☐ None ☐ Improperly Contained ☐ Improper Labeling ☐ Quantity

13. **Waste Disposal Site or Operator:** Certification of receipt of asbestos materials covered by this manifest except as noted in Item 12

Printed Name & Title	Signature	Month / Day / Year

WASTE SHIPMENT MANIFEST
FNSB LANDFILL

GENERATOR (COMPLETE 1-8 AFTER ASBESTOS HAS BEEN REMOVED AND PACKAGED FOR SHIPMENT)

1. **Work Site Name & Mailing Address:** BP Exploration (Alaska) Prudhoe Bay, Ak 99734-0000 OTL 13	**Owner's Name:** BP Exploration (Alaska) PO Box 196612 H-6 Anchorage, Ak 99519-6612	**Owner's Telephone #:** (907) 659-4810 Fax # (907) 659 4239
2. **Abatement Operator (Contractor's) Name & Mailing Address:** CCI 111 W. 16th Suite 401 Anchorage, Ak 99503		**Operator's Telephone # :** 258-5755 **Fax # :** 258-5766
3. **Waste Disposal Site Name and Mailing Address:** Fairbanks North Star Borough Landfill 455 Sanduri Road, Fairbanks, AK 99701		**Telephone #:** (907) 459-1482 phone (907) 459-1017 fax
4. **Name and Mailing Address of Responsible Agency:** EPA, Region X, Office of Air Quality Mail Stop OAQ-107 1200 6th Ave., Seattle WA 98101-1128		**Agency Telephone #:** (206) 553-1172

5. **Type of Materials:** ☐ Friable ☑ Non-Friable	6. **Number and Type of Containers:** No. 2 Type BAGS	7. **Total Cubic Yards of Shipping Containers**

8. **Special Handling Instructions and Additional Information:**
Double bagged + wet

9. **Abatement Operator's (Contractor's) Certification:** I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transportation by highway according to applicable international, Federal and State of Alaska Regulations.

Printed Name & Title	Signature	Month / Day / Year
Ty Taylor CCI		9/20/06

TRANSPORTER

10. **Transporter 1 (Acknowledgement of Receipt of Materials)**

Company Name, Address & Phone	Printed Name and Title Signature	Month / Day / Year

11. **Transporter 2 (Acknowledgement of Receipt of Materials)**

Company Name, Address & Phone	Printed Name and Title Signature	Month / Day / Year

11A. **Transporter 3 (Acknowledgement of Receipt of Materials)**

Company Name, Address & Phone	Printed Name and Title Signature	Month / Day / Year

DISPOSAL SITE

12. **Discrepancy Indication Space:** ☐ None ☐ Improperly Contained ☐ Improper Labeling ☐ Quantity

13. **Waste Disposal Site or Operator:** Certification of receipt of asbestos materials covered by this manifest except as noted in Item 12

Printed Name & Title	Signature	Month / Day / Year

"kurtmillies@juno.com"
<kurtmillies@juno.com>
09/27/2006 01:17 PM

To John Pavitt/R10/USEPA/US@EPA
cc
bcc
Subject

Hey John,

Please find attached copy of landfill operation plan addendum and the survey of the ACM containment areas per our discussion.

If you have any questions please feel free to give me a call 448.3053

Regards

Kurt


FRB06-0X80-01-01.pdf


landfill operation plan addendum.doc

Addendum 7.1 Acceptable and non-acceptable wastes

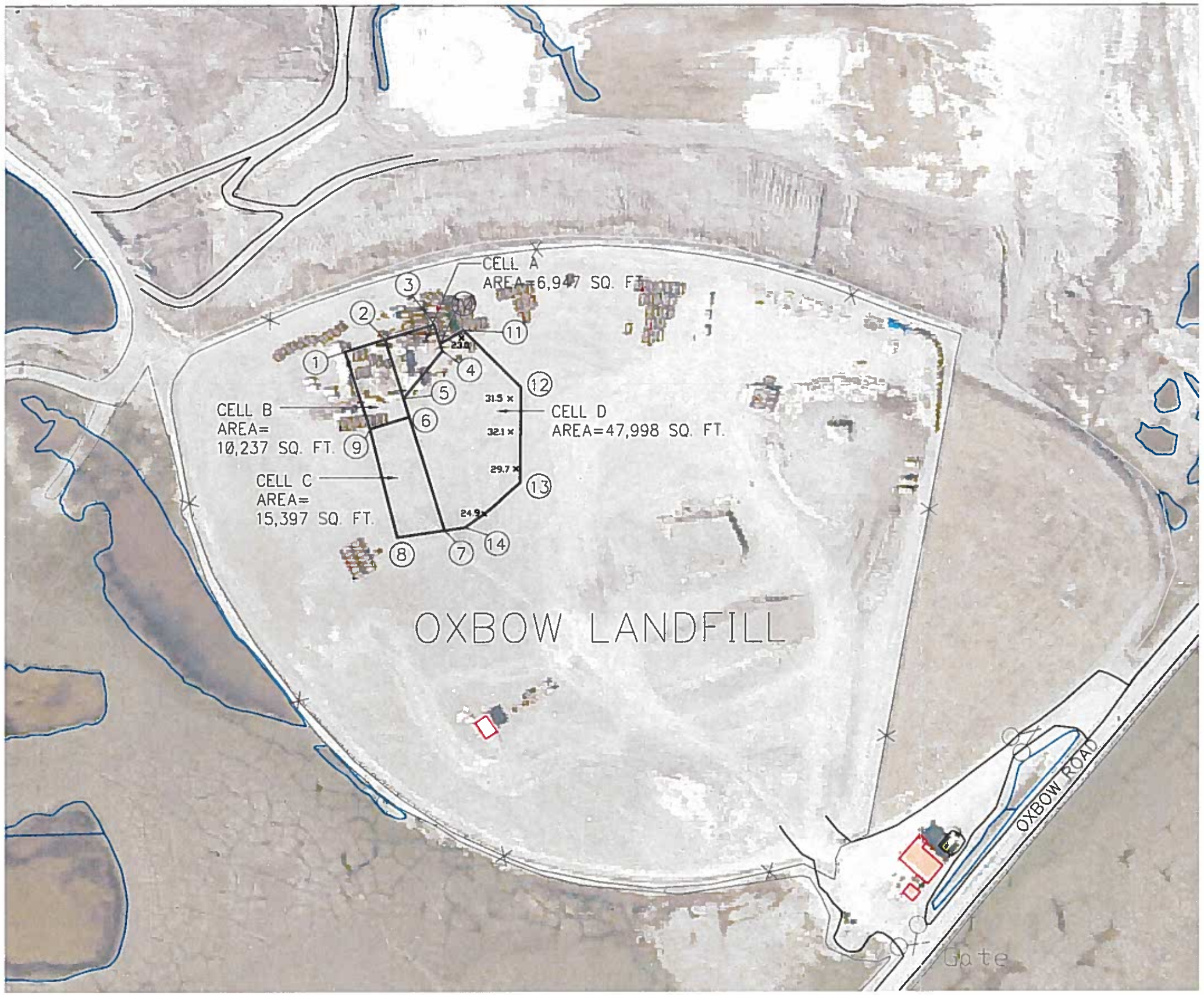
Non-friable Asbestos Material Disposal

The disposal of non-friable waste asbestos containing materials (ACM) at the North Slope Borough Oxbow landfill in Prudhoe Bay Alaska is acceptable under the following conditions. Non-friable ACM is any material containing more than one percent (1%) asbestos as determined using the method specified in Appendix A, Subpart F, 40 CFR Part 763, Section 1, Polarized Light Microscopy (PLM), that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure. Non-friable ACM will be buried in the designated asbestos disposal area in a manner that does not result in the release of asbestos dust. All ACM waste will be covered with at least 6 inches of non-asbestos containing material prior to compaction. Any ACM received must be covered in this manner within 24 hours of deposition.

Disposal of Regulated Asbestos-Containing Material" (RACM) is prohibited. RACM is (a) friable asbestos material, (b) Category I non-friable ACM that has become friable, (c) Category I non-friable ACM that will be or has been subjected to sanding, grinding, cutting or abrading, or (d) Category II non-friable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition or renovation operations. The generation of asbestos dust from non-friable asbestos is a violation of NESHAP.

Bill McNamara Date
Landfill Foreman
ICE Services

Kurt Millies Date
Prepared by
ICE Services



LEGEND:

31.5 × SPOT ELEVATION

(#) AS-BUILT LOCATION

GRID

NOTES:

1. REFERENCE FIELD BOOK PB06-06 PGS. 23, 24, 65 & 66.

2. DATES OF SURVEY: AUGUST 29, & SEPTEMBER 10, 2006.

3. COORDINATES ARE ALASKA STATE PLANE, NAD 27, ZONE 4

COORDINATE CHART

PT. No.	NORTHING	EASTING
1	5,957,181.7	682,392.3
2	5,957,203.5	682,461.9
3	5,957,229.3	682,546.9
4	5,957,183.2	682,561.0
5	5,957,099.9	682,493.7
6	5,957,067.6	682,503.7
7	5,956,869.7	682,564.5
8	5,956,857.5	682,482.7
9	5,957,046.7	682,435.6
10	5,957,195.8	682,557.1
11	5,957,219.6	682,597.5
12	5,957,119.0	682,697.0
13	5,956,952.4	682,695.0
14	5,956,874.6	682,600.4

REFERENCE DRAWINGS	NO	DATE	REVISION	BY	CHK	APPD
	0	9/1/06	ISSUED FOR INFORMATION	TFB	LOH	
	1	9/17/06	ADDED CELL D	TFB	JMF	

ENGINEERING RECORD		DATE
DRN:	TFB	09/01/06
DSGN:		
CHK:		
APP:		
APP:		
SCALE:	1"=200'	

F. Robert bell and assoc.
ENGINEERS AND LAND SURVEYORS
801 WEST FIREWEED LANE

TITLE OF DRAWING:

NORTH SLOPE BOROUGH
OXBOW LANDFILL
ASBESTOS CONTAINMENT CELLS

WORK ORDER	DRAWING NUMBER	REV	SHEET
	FRB06-OXBO-01-01	1	1
MODULE:			OF 1

Date: 9/20/06 8 loads @ 216 cu.yds.

Asbestos Containing Material (ACM) Daily Log

Time	Bin Number	Origin	Driver	Total Yards	Notes
6:30	W-15	GC 3	Wayne	27	
7:30	A-175	GC 3	Wayne	27	
0800	A168	GC 3	Wayne	27	
9:40	B-14	GC 3	Wayne	27	
10:35	A-97	GC 3	Wayne	27	
11:40	805	GC 3	Wayne	27	
1:45	A-36	~~GC 3~~ "Stores"	Wayne	27	
2:40	W-21	Store's	Wayne	27	

GC3

REGULATED ASBESTOS MATERIAL WASTE SHIPMENT RECORD

GENERATOR SECTION

I. **Facility Name:** GREATER PRUDHOE BAY (WOA)
Address:
City: PRUDHOE BAY State: AK Zip Code: 99734
Owner's Name: BPXA
Telephone: (907) 659-5893 Fax: ( )

II. **Operator's Name:** VECO [redacted]
Address: P.O. Box 124
City: PRUDHOE BAY State: AK Zip Code: 99734
Telephone: (907) 659-5026 Fax: ( )

III. **Waste Disposal Site (WDS) Name:** OXBOW LANDFILL

"on-site" disposal ☑ Yes ☐ No

Physical Location:
Address: OXBOW RD.
City: PRUDHOE BAY State: AK Zip Code: 99734
Telephone: (907) 659-0114 Fax: (907) 659-2454

Mailing Address: C/O SERVICE AREA TEN
City: POUCH 340044 PRUDHOE BAY State: AK Zip Code: 99734
Telephone: ( ) Fax: ( )

IV. **Responsible Agency** (Local, District, State, or EPA Office where notification was sent)
Name: LAURIE ALDRICH, ADEC - ANCH OFFICE
Address: 555 CORDOVA ST.
City: ANCHORAGE State: AK Zip Code: 99501

V. Description of Materials	VI. Containers		VII. Total Quantity (cubic yards)
	Number	Type	
INSULATION ACM	A-175	BIN	27
	A-[redacted]A-68	Bin	27
	W-15	Bin	27

VIII. **Special Handling Instructions and Additional Information**

KEEP CLOSED AND SEALED

IX. **Generator's Certification:** I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.

Signature: Bianca T. Crai Date: 9-15-06 Type or Print Name and Title: Ben Craig Foreman

BIN# A-75 A-68 W-15 TIME 6:45 7:30 8:20

REGULATED ASBESTOS MATERIAL WASTE SHIPMENT RECORD

TRANSPORTER SECTION

X. **Transporter 1** (Acknowledgement of receipt of materials)

Name: ICE SERVICES
Address: POUCH 340044
City: DEAD HORSE State: ALASKA Zip Code: 99734
Telephone: (907) 659-0155 Fax: (907) 659-2454

Wayne Krueger — Signature
9/20/06 — Date
Wayne Krueger — Type or Print Name and Title

Rejected Materials (if any)	Destination

XI. **Transporter 2** (Acknowledgement of receipt of materials)

Name:
Address:
City: State: Zip Code:
Telephone: ( ) Fax: ( )

Signature — Date — Type or Print Name and Title

Rejected Materials (if any)	Destination

DISPOSAL SITE SECTION

XII. **Discrepancy indication space**

XIII. **Waste disposal site owner or operator: Certification of receipt of asbestos materials covered by this manifest except as noted in item 12**

Signature
9/20/06 — Date
Debbie Barker Oxford Op — Type or Print Name and Title

Form Revised (11/12/97)

GC3

REGULATED ASBESTOS MATERIAL WASTE SHIPMENT RECORD

GENERATOR SECTION

I. **Facility Name:** GREATER PRUDHOE BAY (WOA)
Address:
City: PRUDHOE BAY **State:** AK **Zip Code:** 99734
Owner's Name: BPXA
Telephone: (907) 659-5893 **Fax:** ( )

II. **Operator's Name:** VECO [redacted]
Address: P.O. Box 124
City: PRUDHOE BAY **State:** AK **Zip Code:** 99734
Telephone: (907) 659-5026 **Fax:** ( )

III. **Waste Disposal Site (WDS) Name:** OXBOW LANDFILL

"on-site" disposal ☑ Yes ☐ No

Physical Location:
Address: OXBOW RD.
City: PRUDHOE BAY **State:** AK **Zip Code:** 99734
Telephone: (907) 659-0114 **Fax:** (907) 659-2454

Mailing Address: C/O SERVICE AREA TEN
City: POUCH 340044 PRUDHOE BAY **State:** AK **Zip Code:** 99734
Telephone: ( ) **Fax:** ( )

IV. **Responsible Agency** (Local, District, State, or EPA Office where notification was sent)
Name: LAURIE ALDRICH, ADEC - ANCH OFFICE
Address: 555 CORDOVA ST.
City: ANCHORAGE **State:** AK **Zip Code:** 99501

V. Description of Materials	VI. Containers		VII. Total Quantity (cubic yards)
	Number	Type	
INSULATION ACM	B-14	BIN	27
	A-97	Bin	27
	805	Bin	27

VIII. **Special Handling Instructions and Additional Information**

KEEP CLOSED AND SEALED

IX. **Generator's Certification:** I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.

Brian T. Craig / / Ben Craig
Signature Date Type or Print Name and Title

BIN# B-14 TIME 9:40
A-97 10:35
805

REGULATED ASBESTOS MATERIAL WASTE SHIPMENT RECORD

TRANSPORTER SECTION

X. **Transporter 1** (Acknowledgement of receipt of materials)
Name: ICE SERVICES
Address: POUCH 340044
City: DEAD HORSE State: ALASKA Zip Code: 99734
Telephone: (907) 659-0155 Fax: (907) 659-2454

Wayne Krueger — Signature
9/20/06 — Date
Wayne Krueger — Type or Print Name and Title

Rejected Materials (if any)	Destination

XI. **Transporter 2** (Acknowledgement of receipt of materials)
Name:
Address:
City: State: Zip Code:
Telephone: ( ) Fax: ( )

Signature — Date — Type or Print Name and Title

Rejected Materials (if any)	Destination

DISPOSAL SITE SECTION

XII. **Discrepancy indication space**

XIII. **Waste disposal site owner or operator: Certification of receipt of asbestos materials covered by this manifest except as noted in item 12**

Signature — 9/20/06 Date — Abbie Barker Oxbow LF Op. Type or Print Name and Title

Form Revised (11/12/97)

REGULATED ASBESTOS MATERIAL WASTE SHIPMENT RECORD

Stores

GENERATOR SECTION

I. **Facility Name:** GREATER PRUDHOE BAY (WOA)
Address:
City: PRUDHOE BAY State: AK Zip Code: 99734
Owner's Name: BPXA
Telephone: (907) 659-5893 Fax: ( )

II. **Operator's Name:** VECO [redacted]
Address: P.O. Box 124
City: PRUDHOE BAY State: AK Zip Code: 99734
Telephone: (907) 659-5026 Fax: ( )

III. **Waste Disposal Site (WDS) Name:** OXBOW LANDFILL

"on-site" disposal ☑ Yes ☐ No

Physical Location:
Address: OXBOW RD.
City: PRUDHOE BAY State: AK Zip Code: 99734
Telephone: (907) 659-0114 Fax: (907) 659-2454

Mailing Address: C/O SERVICE AREA TEN
City: POUCH 340044 PRUDHOE BAY State: AK Zip Code: 99734
Telephone: ( ) Fax: ( )

IV. **Responsible Agency** (Local, District, State, or EPA Office where notification was sent)
Name: LAURIE ALDRICH, ADEC - ANCH OFFICE
Address: 555 CORDOVA ST.
City: ANCHORAGE State: AK Zip Code: 99501

V. Description of Materials	VI. Containers		VII. Total Quantity (cubic yards)
	Number	Type	
INSULATION ACM	A-36 Stores	BIN	27
	W-21	BIN	27
		BIN	~~27~~

VIII. **Special Handling Instructions and Additional Information**

KEEP CLOSED AND SEALED

IX. **Generator's Certification:** I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.

Bianni T. Craig — Signature
Date
Ben Craig — Type or Print Name and Title

BIN# A-36 W-21 TIME 1:40 2:40

REGULATED ASBESTOS MATERIAL WASTE SHIPMENT RECORD

TRANSPORTER SECTION

X. **Transporter 1** (Acknowledgement of receipt of materials)
Name: ICE SERVICES
Address: POUCH 340044
City: DEAD HORSE State: ALASKA Zip Code: 99734
Telephone: (907) 659-0155 Fax: (907) 659-2454

Wayne Krueger — Signature
9/20/06 — Date
Wayne Krueger — Type or Print Name and Title

Rejected Materials (if any)	Destination

XI. **Transporter 2** (Acknowledgement of receipt of materials)
Name:
Address:
City: State: Zip Code:
Telephone: ( ) Fax: ( )

Signature — Date — Type or Print Name and Title

Rejected Materials (if any)	Destination

DISPOSAL SITE SECTION

XII. **Discrepancy indication space**

XIII. **Waste disposal site owner or operator: Certification of receipt of asbestos materials covered by this manifest except as noted in item 12**

Signature — 9/20/06 — Date — Abbie Barker Oxbow LF Op. — Type or Print Name and Title

Form Revised (11/12/97)

Date: 8/2/06

13 @ 354 yd

Daily Material Breakdown for Ice Services

Waste Generator	Origin	Bin #	Total Yards	Steel Metals	Cable Wire	Const. Debris	Ash	Cem emt	Wood Timber	MSW Kitchen	Insul	Tarps Plastic	Paper	Tires Rubber	Sludge	Pipe	Chem	Others
haul all	—	+25	30							30								
haul all	—	+-25	35							35								
Nabors Ak drilling	(Peak Kitchen) Base camp	B58	27							27								
ASRS	old Honaker	A69	27			27												
BP	Hot Water Plant	A204	27			27												
Haul All	T-26	—	26							26								
Haul All	T-26	—	20							20								
Nabors 27E	D.S. 15	237	27			27												
Nordic 1	D.S. 15	A179	27			27												
Northstar	Dock #3	A198	27			27												
BPX	SWS WOA	A41	27			27												
Halliburton	main camp	A115	27						27									
Halliburton	main camp	A15	27			27												
Totals:		13	354															

Date: 8/5/06

Daily Material Breakdown for Ice Services

9c 223yd

Waste Generator	Origin	Bin #	Total Yards	Steel Metals	Cable Wire	Const. Debris	Ash	Cement	Wood Timber	MSW Kitchen	Insul	Tarps Plastic	Paper	Tires Rubber	Sludge	Pipe	Chem	Others
Haul All	T-25	—	25							25								
Haul All	T-25	—	21							21								
Haul All	T-25	—	15							15								
Baker Prod.	Baker	A129	27			27												
BPX	Doyon 16	A109	27			27												
BPX	Doyon	A51	27							27								
BPX	MCC Kitch.	A50	27							27								
BPX	FS 3	257	27			27												
BPX	North ★	W19	27			27												
Totals:		9	223			108				115								

S:\Ice Landfill\Material Breakdown forms.xls ~ Ice Daily

Date: 8/4/06

9c 243yd

Daily Material Breakdown for Ice Services

Waste Generator	Origin	Bin #	Total Yards	Steel Metals	Cable Wire	Const. Debris	Ash	Cem emt	Wood Timber	MSW Kitchen	Insul	Tarps Plastic	Paper	Tires Rubber	Sludge	Pipe	Chem	Others
Haul All	T-25	—	27							27								
MI SWACO	MI SWACO	A56	27			27												
BPX	U9	A185	27			27												
BPX	GC3 Norcon	A53	27			27												
BPX	Slick Picker	A138	27			27												
BPX	U9	A185	27			27												
API	API	A191	27			27												
BPX	Doyon 14 Xpad	267	27			27												
BPX	PBOC	A149	27							27								
Totals:		9	243			189				54								

Date: 8/6/06

11 @ ~~387~~ yd 288

Daily Material Breakdown for Ice Services

Waste Generator	Origin	Bin #	Total Yards	Steel Metals	Cable Wire	Const. Debris	Ash	Cem emt	Wood Timber	MSW Kitchen	Insul	Tarps Plastic	Paper	Tires Rubber	Sludge	Pipe	Chem	Others
Haul All	T-25	—	24							24								
BPX	B.O.C	035	27							27								
BPX	SWS	A132	27			27												
BPX	Endicott	A107	27			27												
Haul All	T-25	—	15							15								
Haul All	T-26	—	26							26								
Haul All	T-26	—	34							34								
BPX	PBOC	057	27							27								
BPX	MCC	A159	27							27								
G+I	D.S.4	A68	27													27		
BPX	Endicott	All	27			27												
Totals:		(11)	(387) 288			81				180						27		

Date: 8/7/06

8 @ 199 yd

Daily Material Breakdown for Ice Services

Waste Generator	Origin	Bin #	Total Yards	Steel Metals	Cable Wire	Const. Debris	Ash	Cem emt	Wood Timber	MSW Kitchen	Insul	Tarps Plastic	Paper	Tires Rubber	Sludge	Pipe	Chem	Others
Haul All	T-26	—	32							32								
Haul All	T-26	—	15							15								
Baker	Baker oil	A175	27			27												
BPX	MCL	A19	27							27								
Veco	Veco Insul	A47	27								27							
↓	↓	A36	27								27							
		A189	27								27							
		A8	27								27							
Totals:		8	199			27				74	108							

Date: 8/9/06

15 c 299 yd (407)

Daily Material Breakdown for Ice Services

Waste Generator	Origin	Bin #	Total Yards	Steel Metals	Cable Wire	Const. Debris	Ash	Cem emt	Wood Timber	MSW Kitchen	Insul	Tarps Plastic	Paper	Tires Rubber	Sludge	Pipe	Chem	Others
Haul All	T-26	—	38							38								
SA 10	Plant	A110	27			27												
Penk	Base	A13	27							27								
Crowley	Crowley	C1	27							27								
Veritas	Veritas	A95	27			27												
BP	SWS WOM	A15	27			27												
Haul All	T-26	—	21							21								
Haul All	T-26	—	24							24								
BPX	Endicott Ftg	A36	27						27									
BP	SWS	035	27								27							
BPX	GC1	275	27						20				7					
BPX	GC1	24	27									27						
BPX	Catco	A104	27									27						
BPX	G+1	68	27									27						
BPX	G+1	107	27									27						
Totals:		(15)	(299)			81			47	137	27	~~54~~	7					

Date: 8/10/06

5c | 26 yd

Daily Material Breakdown for Ice Services

Waste Generator	Origin	Bin #	Total Yards	Steel Metals	Cable Wire	Const. Debris	Ash	Cem emt	Wood Timber	MSW Kitchen	Insul	Tarps Plastic	Paper	Tires Rubber	Sludge	Pipe	Chem	Others
Haul All	T-26	—	25							25								
BPX	SWS	035	27								27							
BPX	GC3	A26	27								27							
BPX	SWS	237	27								27							
Haul All	T-26	—	20							20								
Totals:		5	126							45	81							

Date: 8/11/06

8 @ 220

Daily Material Breakdown for Ice Services

Waste Generator	Origin	Bin #	Total Yards	Steel Metals	Cable Wire	Const. Debris	Ash	Cement	Wood Timber	MSW Kitchen	Insul	Tarps Plastic	Paper	Tires Rubber	Sludge	Pipe	Chem	Others
Haul All	T-26	—	33							33								
Haul All	T-26	—	25							25								
BPX	Annex 1	A111	27								27							
↓	GC1 B	A24	27								27							
	GC1	A36	27								27							
	~~SWS~~ GC3	600	27								27							
	SWS	B1	27								27							
	SWS	C028	27								27							
Totals:		(8)	(220)							58	162							

Date: 8-13-06

Daily Material Breakdown for Ice Services

29 @ 778 yd (2 pages)

Waste Generator	Origin	Bin #	Total Yards	Steel Metals	Cable Wire	Const. Debris	Ash	Cement	Wood Timber	MSW Kitchen	Insul	Tarps Plastic	Paper	Tires Rubber	Sludge	Pipe	Chem	Others
BP WOA	BOC TOOLSOCS KIT	A4	27							27								
BP NB	NORTHSIDE ISLAND	A53	27			27												
BP WOA	SWS WOA	A68	27								27							
BP WOA	SWS WOA	600	27								27							
Schlums. Dowell	DOWELL YARD	A134	27			27												
BP EOA	MCC KIT	A51	27							27								
BP EOA	MCC KIT	A97	27							27								
BP EOA	PBOC KIT	A66	27							27								
BP BAYOU	W/D 3	C010	27			27												
BP BAYOU	W/D 3	A34	27			27												
BP BAYOU	W/D 3	A91	27			27												
BP BAYOU	W/D 3	A3	27			27												
BP BAYOU	W/D 3	260	27			27												
BP WOA	GC3 PIPE PROJ	A111	27								27							
BP WOA	GC3 PIPE PROJ	261	27								27							
BP WOA	GC 1	278	27								27							
BP WOA	Annex	A24	27								27							
Totals This Page		(17)	(459)			189				108	162							

Date 8-13-06

Daily Material Breakdown for Ice Services

29c 778 yd (2 pages)

Waste Generator	Origin	Bin #	Total Yards	Steel Metals	Cable Wire	Const. Debris	Ash	Cem emt	Wood Timber	MSW Kitchen	Insul	Tarps Plastic	Paper	Tires Rubber	Sludge	Pipe	Chem	Others
HaulALL	Trk #25	—	12							12								
HaulALL	Trk #25	—	32							32								
HaulALL	Trk #25	—	27							27								
Haul All	T-25	—	32							32								
BP	SWS	A97	27								27							
BPX	Nordic 2 DSIS	A115	27			17			10									
BPX	GC3	A66	27								27							
BPX	GC3	A34	27								27							
BPX	Annex 1	261	27								27							
BPX	Flow 3	251	27								27							
BPX	SWS	A24	27								27							
BPX	SWS	A3C	27								27							
Total This Page:		12	319			17			10	103	189							
Total 1st Page:		17	459			189				108	162							
GRAND Totals:		(29)	(778)			206			10	211	351							

Date: 8/14/06

11 @ 253 yd

Daily Material Breakdown for Ice Services

Waste Generator	Origin	Bin #	Total Yards	Steel Metals	Cable Wire	Const. Debris	Ash	Cement	Wood Timber	MSW Kitchen	Insul	Tarps Plastic	Paper	Tires Rubber	Sludge	Pipe	Chem	Others
Haul All	T-26	—	21							21								
Haul All	T-26	—	19							19								
BPX	SW5	A139	27			7					17							
BPX	GC3	A68	27								27							
BPX	Annex I	B59	27								27							
BPX	PRU ~~GRAD~~	A15	27	27														
BPX	GC1	A111	27								27							
BPX	GC1	C028	27								27							
BPX	GC3	A12	27								27							
Halliburton	Baroid	A80	27			27												
BPX	MCL	A8	27								27							
Totals:		(11)	(253)			34				40	179							

Date: 8/16/06

11c 288 yd

Daily Material Breakdown for Ice Services 288 yds.

Waste Generator	Origin	Bin #	Total Yards	Steel Metals	Cable Wire	Const. Debris	Ash	Cem emt	Wood Timber	MSW Kitchen	Insul	Tarps Plastic	Paper	Tires Rubber	Sludge	Pipe	Chem	Others
Haul All	Trk 25	—	34							34								
Haul All	Trk 25	—	22							22								
Haul All	T-25	—	15							15								
NABORS	Peak Base	A212	27							27								
Nabors 27E	D.S. #15	A41	27			27												
Haul All	—	T-26	28							28								
BP-NOA	Price Pad	A53	27			27												
ICE	PBH	A199	27			27												
Schlumber	wireline	A131	27			27												
Veco	P43	221	27			27												
BP	FS1 - Pipline Stripping	A95	27								27							
Totals:			288			135				126	27							

Date: 8/17/06

Daily Material Breakdown for Ice Services 94 yds.

3 @ 94 yd

Waste Generator	Origin	Bin #	Total Yards	Steel Metals	Cable Wire	Const. Debris	Ash	Cement	Wood Timber	MSW Kitchen	Insul	Tarps Plastic	Paper	Tires Rubber	Sludge	Pipe	Chem	Others
Haul All	+25	40								40								
Conam	Heavy Equip Shop	A141	27			27												
BP Drilling Nordic 3	G-Pad	A177	27			27												
Totals:		(3)	(94)			54				40								

Date: 8/18/06

Daily Material Breakdown for Ice Services 269 YDS. 9c 269 yd

Waste Generator	Origin	Bin #	Total Yards	Steel Metals	Cable Wire	Const. Debris	Ash	Cem emt	Wood Timber	MSW Kitchen	Insul	Tarps Plastic	Paper	Tires Rubber	Sludge	Pipe	Chem	Others
HAUL ALL	—	T-25	40							40								
haul all		T-25	40							40								
SWS	Insulation Stripping	B1	29								27							
[redacted] BP	ES-3 Insulation Stripping	600 [redacted]	27		27													
VECO	PS#3	A209	27			27												
BPX WOA	GC-3	261	27								27							
BP	GC-3	A191	27								27							
SWS	Insulation	A97	27								27							
BP	SWS	B41 [redacted]	27								27							
Totals:		9	269		27	27				80	135							

Date: 8/20/06

26@721 yds³

Pg 2

Daily Material Breakdown for Ice Services

Waste Generator	Origin	Bin #	Total Yards	Steel Metals	Cable Wire	Const. Debris	Ash	Cement	Wood Timber	MSW Kitchen	Insul	Tarps Plastic	Paper	Tires Rubber	Sludge	Pipe	Chem	Others
BP	SWS	A41	27			27												
BP	SWS	600	27			27												
BP	GC #1	A91	27								27							
BP	PBOC	A135	27							27								
BP	LITTLE RIVER PAD	A221	27								27							
BP	ANNEX-1	B41	27								27							
BP	ANNEX-1	274	27								27							
BP	GC-1	A34	27								27							
BP	LITTLE RIVER PAD	211	27								27							
BP	ANNEX-1	A15	27								27							
						54				27	189							
Totals:		26	721	~~[illegible]~~		~~108~~				(208)	378							

Date: 8/20/06

Daily Material Breakdown for Ice Services

Waste Generator	Origin	Bin #	Total Yards	Steel Metals	Cable Wire	Const. Debris	Ash	Cem emt	Wood Timber	MSW Kitchen	Insul	Tarps Plastic	Paper	Tires Rubber	Sludge	Pipe	Chem	Others
BP	Annex	A91	27								27							
BP	GC-3	A80	27								27							
haul all	—	T-25	40							40								
SA10	Kitchen	A23	27							27								
haul all	—	T-25	20							20								
BP	GC-3	A209	27								27							
BP	GC-3	A12	27								27							
BP	GC-3	A97	27								27							
BP	Nordic 3 G-PAd	A55	27							27								
BP	BOC kitchen	A20	27							27								
BP	GC 1	A4	27								27							
BP	Endicott	211	27			27												
Haul All	—	T-26	40							40								
[redacted]																		
BP	ANNEX 1	221	27								27							
U.I.C.	WEST DOCK	A27	27	27														
BP	Endicott	825	27			27												
SUB Totals:		16	451	27		54				181	189							

ate: 8/21/06

14 @ 380 yds³

aily Material Breakdown for Ice Services

Waste Generator	Origin	Bin #	Total Yards	Steel Metals	Cable Wire	Const. Debris	Ash	Cement	Wood Timber	MSW Kitchen	Insul	Tarps Plastic	Paper	Tires Rubber	Sludge	Pipe	Chem	Others
hall all	—	t-25	30							30								
BP	Little Putt River	A8	27								27							
hand all	—	t-25	26							26								
MCC BP	MCC	057	27							27								
MCC BP	MCC	C-039	27							27								
[redacted]	[redacted]	[redacted]	[redacted]															
[redacted]	[redacted]	[redacted]	[redacted]															
BP	Putt River	221	27								27							
BP	GC-3	A4	27								27							
BP	LITTLE PUT	W19	27								27							
BP	GC-3	A23	27								27							
ASRC		A58	27			27												
BP	GC3	261	27								27							
BP	GC1	A26	27								27							
BAIC	Yard	A102	27									27						
laborS	frontier	244	27			27												
Totals:		14	380			54				110	189	27						

Date: 8-23-06

10 @ 299 yd

Daily Material Breakdown for Ice Services ~299 yds.

Waste Generator	Origin	Bin #	Total Yards	Steel Metals	Cable Wire	Const. Debris	Ash	Cement	Wood Timber	MSW Kitchen	Insul	Tarps Plastic	Paper	Tires Rubber	Sludge	Pipe	Chem	Others
HAUL ALL	—	TK25	38							38								
UIC	Peak YARD	A146	27			27												
Base camp	Peak kitchen	A24	27							27								
Haul all	—	+25	40							40								
Haul all		+25	32							32								
BPX Nabors 27E	Drillsite 15	A292	27			27												
BP ~~Doyon #~~ 14	DOYON 14 X-PAD	Ash Bin	27							27								
Alyeska	Pump #1	A115	27			27												
Marsh Creek		803	27			27												
BP [redacted]	DOYON 16 "D" PAD	257	27			27												
Totals:		10	299			135				164								

Date: 8/24/06

Daily Material Breakdown for Ice Services 188 YDS.

6c 188 yd

Waste Generator	Origin	Bin #	Total Yards	Steel Metals	Cable Wire	Const. Debris	Ash	Cem emt	Wood Timber	MSW Kitchen	Insul	Tarps Plastic	Paper	Tires Rubber	Sludge	Pipe	Chem	Others
haul all	—	T-25	40							40								
BP	SWS	B-42	27								17*	~~10~~						
BP	X-PAD	A-138	27	[illegible]								27						
*Haul All	—	T-25	40							40								
BP	PBOC	A-51	27							27								
BP	MCC	C-007	27							27								
Totals:		6	188							134	17	37						

*BLACK MASTIC NOT ACCEPTABLE

Date: 8/25/06

10c 27 yd

Daily Material Breakdown for Ice Services

Waste Generator	Origin	Bin #	Total Yards	Steel Metals	Cable Wire	Const. Debris	Ash	Cem emt	Wood Timber	MSW Kitchen	Insul	Tarps Plastic	Paper	Tires Rubber	Sludge	Pipe	Chem	Others
Haul All	—	T-25	32							32								
BP	Flow 1	A-131	27									27						
Haul All	—	T-25	29							29								
BP	D-Pad	A-129	27						27									
Veco PS#3	Carlile	A18	27			27												
CATCO	Catco	A-113	27						27									
AOH ←	Veco	A-79	27							27								
BP	Endicott	A112	27			27												
BP	Northstar	W03	27			27												
BP	Northstar	A67	27			27												
Totals:		(10)	(277)			108			54	88		27						

Date: 8/27/06

13 @ 397 yd

Daily Material Breakdown for Ice Services

Waste Generator	Origin	Bin #	Total Yards	Steel Metals	Cable Wire	Const. Debris	Ash	Cement	Wood Timber	MSW Kitchen	Insul	Tarps Plastic	Paper	Tires Rubber	Sludge	Pipe	Chem	Others
haul all	—	+-25	34							34								
haul all	—	+-25	38							38								
BP	Hot Water Plant	a69	27										27					
BP	MCC	a66	27							27								
BP	Northstar	A206	27			27												
BP	Northstar	W20	27			27												
haul all	—	+25	40							40								
haul all	—	25	32							32								
Slumbergea	Dowell	A197	27			27												
Vecco #3	Carlile	A-72	27			27												
BP	Pipeline stripping FS-3	A211	27								27							
B.P	Station Hoco I	308	27			10												17 Rig
BP	BOC	A134	27							27								
Totals:		13	397			118				198	27		27					27

Date: 8/28/06

9c222yd

Daily Material Breakdown for Ice Services

Waste Generator	Origin	Bin #	Total Yards	Steel Metals	Cable Wire	Const. Debris	Ash	Cem emt	Wood Timber	MSW Kitchen	Insul	Tarps Plastic	Paper	Tires Rubber	Sludge	Pipe	Chem	Others
Haul All	T-25	—	38							38								
B.P	P130G	A41	27							27								
Haul all	+-25	—	22							22								
NABORS	Casing Yard	A186	27			27												
BP	MCC	A119	27							27								
Veritas	Veritas	A110	27			27												
BP	PBOC stick pickers	A-185	27			27												
Tuboscope	Tuboscope	A-20	27															
~~A-56~~ BP	C19	A-56	27			27												
Totals:		9	222			108				114								

Date: 8/30/06

13 c 367 yd

Daily Material Breakdown for Ice Services

Waste Generator	Origin	Bin #	Total Yards	Steel Metals	Cable Wire	Const. Debris	Ash	Cem emt	Wood Timber	MSW Kitchen	Insul	Tarps Plastic	Paper	Tires Rubber	Sludge	Pipe	Chem	Others
Haul All	T-25	—	39							39								
Haul All	T-25	—	35							35								
Nabors	NOC	A49	27			27												
Nabors	Peak Base	A89	27							27								
BPX	A-Pad	A22	27						27									
ASTAC	ASTAC	A71	27	27														
Haul All	T-25	—	29							29								
Pioneer	12 Acre Pad	A33	27			27												
Haul All	T-25	—	21							21								
ASTAC	ASTAC	A85	27	27														
Doyon 16	D-Pad	A99	27			27												
Veco	Veco Weld	A30	27			27												
Conam	conham	A-95	27			27												
Totals:		(13)	(367)	54		135			27	151								

Date: 8/31/06

Daily Material Breakdown for Ice Services

4 @ 118 yd

Waste Generator	Origin	Bin #	Total Yards	Steel Metals	Cable Wire	Const. Debris	Ash	Cement	Wood Timber	MSW Kitchen	Insul	Tarps Plastic	Paper	Tires Rubber	Sludge	Pipe	Chem	Others
Haul All B.P	T-25	—	24							24								
	~~A-20~~ MPI	A-20	27			27												
Haul All B.P	T-25 M.P.I	—	40							40								
		A-159 ~~27~~ 27																
Totals:		4	118	27		27				64								

bp

BP Exploration (Alaska) Inc.
900 East Benson Boulevard
P.O. Box 196612
Anchorage, Alaska 99519-6612
(907) 561-5111

October 18, 2006

Mr. John Pavitt
US Environmental Protection Agency Region 10
222 W 7th Avenue Box 19
Anchorage, AK 99513-7588

Re: Response to request for additional information on asbestos containing material removal site, Greater Prudhoe Bay, North Slope , Alaska

Dear Mr. Pavitt:

BP Exploration (Alaska) Inc. (BPXA) appreciates the opportunity to provide additional information to respond to questions you raised during your inspection the week of September 25th, 2006.

The removal of asbestos containing sealant from pipelines in Prudhoe Bay has been on-going. BPXA is anticipating that insulation and asbestos containing sealant will be removed from approximately 30,000 feet of pipeline within the Greater Prudhoe Bay Field by the end of the year (this number includes the Western Operating Area oil transit line, small portions of the Eastern Operating Area oil transit line and other identified pipelines with asbestos containing sealant such as the NGL line). If any significant changes occur in our linear footage estimate, we will let you know through a revised notification.

Between March 2nd, 2006 –when the spill on Gathering Center 2 oil transit line occurred, and August 21st, 2006 –when we received sample results that the sealant underneath the insulation contained asbestos, BPXA removed approximately 7,000 feet of insulation material and asbestos containing sealant.

In addition, please find enclosed the following documents that you requested:

- A revised notification with the estimated linear footage of pipe scheduled to have insulation and sealant removed by December 31, 2006. This notification was submitted to EPA on October 16th, 2006.
- The revised procedure used to perform the work dated October 9th, 2006.
- The names and certification records for the supervisors on the pipeline asbestos removal project.
- The timeline of events starting August 20th, 2006.

Please let me know if you have any questions or if I can provide additional documents,

Sincerely,

Anne-Christine Aycaguer
Waste Management Coordinator

Cc: Michele Wright, EPA Region 10 Seattle

Bcc:
Bob Batch
Len Seymour
Janet Platt
GPB, Environmental Team Leader
GPB, Environmental Advisor East
GPB, Industrial Hygiene
Eric Fjelstad (Perkins Coie)
HSE File

U.S. ENVIRONMENTAL PROTECTION AGENCY - STATE OF ALASKA
NOTIFICATION OF DEMOLITION AND RENOVATION

Operator Project #	Postmark	Date Received	Notification #

I. Type of Notification (check one): ☐ Original ☒ Revised ☐ Canceled

II. Facility Description (include building name, number, and floor or room number)

Building Name: Various pipelines operated by BP Exploration Alaska, Inc at Prudhoe Bay

Address: BP Exploration Alaska, Inc., PO Box 196612

City: Anchorage State: AK Zip Code: 99519 County: None

Site Location (specific): Prudhoe Bay, Alaska

Building Size (square feet): N/A # of Floors: N/a Age in Years: 29

Present Use: Transportation of processed crude oil Prior Use: None

III. Type of Operation (check one) ☐ Demo ☐ Ordered Demo ☐ Renovation ☒ **Emergency Renovation** ☐ Fire Training

IV. Is Asbestos Present? (check one): ☒ Yes ☐ No

V. Facility Information

Owner Name: BP Exploration (Alaska) Inc.

Address: PO Box 196612

City: Anchorage State: Alaska Zip Code: 99519

Contact: Mike Taylor/Laura Dickie, Industrial Hygienist Telephone (907) – 659-4470 Fax: 907-659-4467

Removal Contractor Name: CCI, Inc License #

Address: 800 Cordova St., Suite 102

City: Anchorage, State Alaska Zip Code: 99501

Contact: Nick Kuhlmann Telephone (907) 258-5755 Fax:

Removal Contractor Name: VECO License #

Address: 949 E. 36th Avenue

City: Anchorage State Alaska Zip Code: 99508

Contact: Amanda Finnegan Telephone 907-762-1193 Fax: 907-762-1194

Removal Contractor Name: White Environmental License #

Address: 731 I street

City: Anchorage State Alaska Zip Code: 99501

Contact: Matt White Telephone 907-258-8661 Fax:

Removal Contractor Name: Environ License #

Address: 214 Carnegie Center

City: Princeton State New Jersey Zip Code: 08540-6284

Contact: Christopher R. Zwiebel Telephone 570-443-9422 Fax: 570-443-0482

Removal Contractor Name: PENCO Pacific Environmental License #

Address: 6000 A Street

City: Anchorage State Alaska Zip Code: 99518

Contact: Richard Wilson Telephone 907-562-5420 Fax: 907-562-5426

Other Operator (demolition/general) CCI (Deadhorse office contacts) License #

Address: Prudhoe Bay Hotel; Office A-100

City: Prudhoe Bay State Alaska Zip Code: 99734

Contact: Jon Lervig, Ken Fitzgerald Telephone (907) 659-2428 Fax: (907) 659 -2446

VI. Procedure, including analytical methods, employed to detect the presence of and to estimate the quantity of RACM and Category I and Category II non-friable ACM: This insulation removal is required for ultrasonic testing of the pipelines, and to install bypasses.

While removing rigid urethane foam insulation from a 29 year-old oil transit pipeline, a hard, black mastic on the inside of the insulation , was discovered. Most came off intact, attached to the urethane insulation sections, but some small patches of black mastic remained adhered on the piping. Samples were taken by the Prudhoe Bay industrial hygienist. Analysis by an EPA-accredited lab indicated approximately 5% to 10% asbestos content in the 1/16 to 1/8 inch thick mastic. The black mastic was determined to be non-friable.

VII. Approximate Amount of Asbestos Materials:

	RACM to be Removed	Non-friable Asbestos Material to be Removed		Non-friable Asbestos Material NOT to be Removed	
		Category I	Category II	Category I	Category II
Pipes (linear feet)	0	0	~ 30,000 ft	0	0
Surface area of mastic (ft^2)	Some RACM might be generated as a result of removal activities of the category II non-friable asbestos, although efforts will be focused on limiting generation of RACM.	0	~ 257,000 ft^2 90% or more of the mastic is removed along with the insulation, some mastic remains on the pipe in spots and is removed through more hands-on methods (see procedure)	0	0
Facility Components (cubic feet)	0	0	0	0	0

VIII. Scheduled Dates Demolition or Renovation: Start: 8/22/2006 Complete: 12/31/2006

IX. Dates for Asbestos Removal (MM/DD/YY) Start: 8/22/2006 Complete: 12/31/2006

Days of the Week:	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Hours of Operation:	24	24	24	24	24	24	24

Complete all unshaded spaces, except demolitions which involve less than 260 linear feet, 160 square feet, or 35 cubic feet of RACM, need not complete spaces VII, XI,XII,XIII,XIV, and XV. Notifications for Emergency Demolition or Emergency Renovation must supply attachments.

X. Description of planned Demolition or Renovation work to be performed and method(s) to be employed, including demolition or renovation techniques to be used and description of affected facility components:

The work to be performed is the removal of insulation material with asbestos containing mastic attached.

Insulation bands will be cut and the sheet metal weather protection lagging will be removed, thereby freeing the insulation blocks for removal. A procedure has been developed and updated to ensure asbestos is not released to the environment and that workers are properly protected (see enclosed procedure).

XI. Description of work practices and engineering controls to be used to comply with the requirements, including asbestos removal and waste handling emission control procedures:

This work is done outdoors in an open environment.

Insulation blocks will be removed without crushing by workers with asbestos-maintenance training specific to this job.

A procedure has been developed and updated to ensure asbestos is not released to the environment and that workers are properly protected (see enclosed procedure).

The work will be monitored by an individual trained in the provisions of NESHAP (40 CFR PART 61, SUBPART M) and will be on-site during the insulation removal. The BP Prudhoe Bay Industrial Hygienist will also be on-site. Methods and controls may be adjusted as experience dictates.

XII. Waste Transporter #1

Name: ICE Services

Address: Pouch 34004e

City: Prudhoe Bay | State: Alaska | Zip Code: 99734
Contact: Rich Helinski and Richard Cox | Telephone: 907-659 0114 | Fax: 907 659 2454-

Waste Transporter #2
Name: CCI, Inc.
Address: Prudhoe Bay Hotel, Office A100
City: Deadhorse | State: Alaska | Zip Code: 99734
Contact: John Lervig/Ken Fitzgerald | Telephone: (907) 659-2428 | Fax: 907-659 -2446

Waste Transporter #3
Name: Carlile Transportation Systems Inc
Address: 1800 East 1st Avenue
City: Anchorage | State: Alaska | Zip Code: 99501
Contact: Lisa Marquiss | Telephone: (907) 276-7797 | Fax: 907-278-7301

XIII. Waste Disposal

Name: North Slope Borough landfill for category II non-friable (see contact and address below), Fairbanks North Star Borough for any RACM (contact and address: Sanduri Road, Fairbanks, Alaska, 99701, Phone: 907-459-1482, Fax: 907-4591017, Contact is Bob Jordan)
Address:
City: Prudhoe Bay | State: Alaska | Zip Code: 99734
Contact: Rich Helinski | Telephone: (907) 448-1516 | Fax: 907-659-2454

XIV. Emergency Demolition (complete Item XIV and all other sections, only if this project is an Emergency Demo.)

1. Attach a copy of the Order to this notice.
2. Name of Authority Issuing Order: Title:
3. Authority of Order (Citation of Code):
4. Date of Order (MM/DD/YY): Date Ordered to Begin

XV. Emergency Renovation (See separate sheet attached)

1. Date and Hour of the Emergency: August 20, 2006
2. Description of the sudden, unexpected event:
   BPXA has been required by DOT to inspect Prudhoe Bay's 29-year old oil transit lines and conduct ultrasonic testing as necessary to determine the extent of corrosion damage to the lines. During removal of the insulation, black mastic was noticed. Most of the mastic comes off intact on the insulation blocks when they are lifted off the line, but in some locations it has adhered to the steel pipe surface. The Prudhoe Bay industrial hygienist tested the mastic for asbestos and on August 20, 2006 received results from the EPA-accredited lab that the mastic contained 5% to 10% asbestos content. This is an emergency inspection and maintenance operation, not a scheduled abatement.
3. Explanation of how the event caused unsafe conditions or equipment damage or an unreasonable financial burden.
   Not Applicable as the emergency is caused by the Department of Transportation Order to perform inspection of the pipeline.

XVI. Description of procedures to be followed in the event that unexpected RACM is found or non-friable ACM becomes crumbled, pulverized or reduced to powder.

A procedure has been developed to ensure asbestos is not released to the environment and that workers are properly protected (see enclosed procedure).

XVII. I certify that an individual trained in the provisions of NESHAP (40 CFR PART 61, SUBPART M) will be on-site during the Demolition or Renovation and evidence that the required training has been accomplished by this person will be available during normal business hours.

Len Seymour — Signature of Owner/Operator | 10/16/06 — Date | Len Seymour — Type or Print Name and Title

XVIII. I acknowledge the existence of laws prohibiting the submission of false or misleading statements and I certify that facts contained in this notification are true, accurate, and complete.

Len Seymour — Signature of Owner/Operator | 10/16/06 — Date | Len Seymour — Type or Print Name and Title

BP Exploration (Alaska) Inc
Procedure and PPE Hazard Assessment
for
Removal of Insulating Materials and Asbestos-Containing Sealant From Oil Transit Lines Outdoors

Purpose. This procedure sets forth work practices and other controls for the removal of jacketing, foam insulation, and adhered sealant from oil transit lines in the Western Operating Area of the Greater Prudhoe Bay field, as necessary to assure the protection of worker health and safety and compliance with State of Alaska and Federal regulations.

Background. Oil transit lines in the Western Operating Area of Greater Prudhoe Bay were constructed and insulated 29 years ago. The insulation used was urethane foam with a sealant on the inside curve where the insulation rests against the exterior of the steel pipeline. Some sealant may have been applied directly to the pipeline and insulation ends by brush. The insulation is held in place by a sheet metal jacket, secured with crimps and steel straps. Multiple tests of pipeline sealant from various locations in the WOA confirmed that the sealant contained from 5% to 10% Chrysotile asbestos. The asbestos fibers are firmly bound in the non-friable asphaltic sealant. When the insulation is removed, nearly all the sealant remains adhered to the inside of the foam insulation, but perhaps 1-2% of the pipeline surface may have adhered sealant. The sealant is non-friable, both as adhered to the insulation and where it remains on the steel pipeline. These patches are usually hard and dry on the outer surface.

The bottom one third of each oil transit line is required to be ultrasonically tested. This inspection requires that insulation and sealant be removed from the surfaces to be tested. Maintenance workers must first remove the sheet metal jacket and the foam insulation, then asbestos removal workers will remove the patchy sealant from the pipe surface. Sealant is to be removed from all surfaces of the pipe, top and bottom, even those that will not be ultrasonically tested. Other workers may follow the sealant removers to grind rust from the pipeline only in the areas where the sealant has already been removed. The work is being done for maintenance purposes, and not for abatement of any asbestos health hazard.

Federal and State of Alaska regulatory requirements are triggered by the removal of the insulation with its asbestos-containing sealant:

- The EPA NESHAP regulation (40CFR Part 61, Subpart M) classifies asbestos-containing building materials and requires pre-notification of removals to be made to the Alaska Department of Labor on behalf of the EPA. Under this regulation, the sealant is classified as EPA Category 2 non-friable asbestos-containing material. The Anchorage HSE department has filed the EPA notification identifying the removal as an emergency removal required by regulatory agencies for the purposes of corrosion testing of the pipeline.

- Alaska Department of Labor, Division of Occupational Safety and Health, Asbestos Construction Standard, incorporated by reference to 29 CFR 1926.1101, classifies asbestos-related work and sets forth requirements for work that disturbs asbestos-containing materials. This standard specifies required training, work practices, waste-handling, and other controls.
- The Alaska Department of Labor contends that the insulation removal work meets the definition of Class 2 asbestos removal work and is therefore covered by the Alaska Asbestos Abatement Certification regulation 8 AAC 61.600.
- Under 8 AAC 61.620(b), a plan listing the certified workers to be used, must be submitted to the Alaska Department of Labor that assures that workers are certified. The workers must be approved by the Department before asbestos removal starts. The approved plan with the worker list must be available at the worksite.

Work Tasks and Steps.

Task 1. Removal of sheet metal and rigid foam thermal insulation.

Step 1. Place a Rhinohide sheet under the pipeline where the jacket and insulation are to be removed. This is to help collect small pieces of insulation and sealant or other debris that may otherwise litter the area after the removal. In areas located over water or large puddles, structures in the form of pallets or scaffolds should be used to hold the Rhinohide out of the water. Areas requiring scaffolds will need to be identified prior to removal activities to permit scaffold construction. Alternatively, spill liners could be suspended from the pipeline to catch falling debris.

Step 2. Use Sawz-All and or hand tools as necessary to open the sheet metal jacket and to cut or clip steel retaining bands where present. Note – wet methods are not feasible for this step because the asbestos-containing sealant is on the inside surface of the insulation and is not accessible to wetting.

Step 3. Lift off sheet metal jacket and insulation sections keeping material intact to the extent possible. Mist the sealant side of the insulation as it is removed. Do not disturb the sealant on the back of the insulation, or remaining on the pipeline.

Step 4. Separate the metal jacket from the foam insulation. Stack the metal jacket separately for later pickup for recycling. Metal jackets with sealant should be disposed of with the waste foam insulation.

Step 5. Promptly place insulation with sealant still attached in NSB dumpsters/bins on site. These dumpsters/bins will be either double-lined with Rhinohide or have a dumpster liner. Spray amended water onto the insulation as it is loaded into the dumpster/bin. Do not crush or compact to reduce volume in the bin. When the dumpster/bin is full, loosely tape the top of it closed. Also place the "normal" netting over the top prior to transporting. NSB will transport the bins to the Oxbow Landfill with the proper paperwork filled out.

Step 6. Clean up any gross urethane debris on Rhinohide and place debris in the dumpster with the insulation. Loose sealant debris is to be cleaned up using a HEPA vacuum. The sheet may be reused continuously at successive insulation removal stations along the line. Do not move the sheet to the next removal station until all debris has been removed and placed in the dumpster. Leave no debris behind under or along the pipeline.

Task 2. Removal of sealant adhered to pipeline.

Method A—Wet scraping sealant removal without power tools. Preferred method.

Step 1. Establish the removal area as a regulated area by use of asbestos warning signs, cones, or asbestos barrier tape. Ensure that the regulated area has the required asbestos regulated area signs posted.

Step 2. Establish a decontamination area that is connected to the regulated area. The decon area is to be divided into an equipment area and a clean area. Labeled asbestos waste bags and containers for contaminated equipment are to be staged in the equipment area. A Rhinohide sheet is to be placed beneath the waste bags and container. Equipment and gear can be placed on the sheet as workers go through the equipment area. To avoid slip hazards, the sheet should not cover the entire area. Enter and exit the regulated area only through the decon area. Put on all required PPE prior to entering the regulated area.

Step 3. Lay a Rhinohide sheet under the section of piping where removal is to occur. The purpose is to catch sealant debris that falls during the removal operation. An acceptable modification is to use a standard spill liner with a Rhinohide or 6 mil poly sheet inside the spill liner. The spill liner may be placed on the ground under the pipeline, or it may be suspended from the pipeline by cords that loop over the pipeline. Either way, the spill liner must be moved along with the work so that the removal occurs over the spill liner.

Step 4. Mist the area of sealant to be removed with a citrus-based solvent (such as De-Solv-it Contractor's Solvent) so that surface is thoroughly wetted.

Step 5. Use a hand-held scraper to scrape the material from the pipe. The scrapings may be captured in either of the following ways:

- Use a HEPA vacuum to capture sealant as it is scraped free, or
- Allow the scrapings to fall to the spill liner and/or Rhinohide sheet.

Step 6. Remove any remaining smears of sealant from the pipe surface with an abrasive scrub pad (green 3M pad or the like) saturated with citrus solvent. As pads become loaded with sealant, dispose of them with the waste sealant in the labeled asbestos disposal bags.

Step 7. Clean any gross debris from the Rhinohide by wiping or by use of an HEPA vacuum. Large pieces of sealant may be picked up by hand and placed directly in labeled asbestos disposal bags if that works better. Do not dry sweep the debris. Fold the sheet inward and transfer for reuse at the next removal station. Do not move the sheet to the next removal station until gross debris has been cleaned from the sheet.

Step 8. Double bag sealant removed in labeled asbestos disposal bags and transfer to the GPB Waste Coordinator for disposal as asbestos waste according to BPXA asbestos procedures. Do not put this waste in the NSB dumpsters.

Step 9. Decontamination. Exit the regulated area only by going through the equipment portion of the decon area. Place all contaminated tools and equipment in containers provided. Use a HEPA vacuum to vacuum off Tyvek suits. Remove the Tyvek suit and place it in a labeled asbestos waste bag in the decon area. If wearing a respirator, leave it on until in the clean area.

Method B—Power wire brushing or grinding with HEPA exhaust system. For use where manual scraping is not effective or efficient, such as on welds or crevices. Use this method when and where directed by the competent person on site. This method may be used also by Alaska-certified asbestos workers for special situations such as preparation of localized surfaces of piping for hot tap or welding operations along pipelines or in production facilities where asbestos-containing sealant is present. The work of these latter situations will be described in an appropriate work order.

Step 1. Set up or work within a regulated area as described in **Method A—Wet scraping.** Procedures and controls in place for Method A, including misting with a sealant removal solvent, apply to Method B as well. Note – If work takes place in or near a production facility, a Hot Work Permit will be necessary. Obtain this from the facility Control Room and complete it with the area operator upon arrival at the facility.

Step 2. Choose a 5" or 7" grinder specially equipped with a capture hood and take off for local exhaust ventilation.

Step 3. Fit the grinder with a wire wheel, sanding disk, or grinding disk as suited to the specific surface and requirement.

Step 4. Fit the hose from a HEPA vacuum to the capture hood take off point such that no leaks occur.

Step 5. Turn on the HEPA vacuum at the highest speed (if variable) and be sure that any bypass vents are closed so that all flow to the vacuum originates at the tool capture hood.

Step 4. Use the grinder to remove the sealant and/or to buff the surface as directed by the work order or by the competent person.

Step 5. Wet wipe surfaces, as described in Method A, after grinding or buffing if necessary to remove any remaining bits of sealant.

Step 6. Clean the Rhinohide sheet using HEPA vacuum and save it for reuse at the next station. Do not dry sweep the debris. When the Rhinohide sheet is worn out, clean and place it in the dumpster with the foam insulation for transport to the North Slope Borough Landfill. Remove regulated area tape and signs.

Step 7. When the HEPA vacuum collection bag is full, replace it according to manufacturer's directions, then double bag it in a labeled asbestos bag for disposal as friable asbestos waste through the Waste Coordinator.

Hazard Assessment

Task 1. Sheet metal and insulation removal

Hazards

Sharp edges of sheet metal jacket and bands
Power tool use—Sawz-All: reciprocating saw blade
Eye, face and hand hazards from released straps and sheet metal
Noise from power cutting of metal jacket, expected to be <100 dBA.
Uneven, wet and perhaps slippery surfaces around pipeline and adjacent road embankment, and power cords may present slipping or trip hazards.
Note: no significant asbestos exposure is expected in this task because the asbestos-containing sealant is non-friable and will remain non-friable and undisturbed during the removal.
No asbestos exposure was measured during air monitoring when sealant was removed dry with power tools and no HEPA vacuum. Therefore, no asbestos exposure is expected for sheet metal and insulation removal.
Cold stress in cool, wet weather
Foxes—may be rabid
Crushing injuries from sudden movement of pipelines

PPE requirements

Hard hats
Safety glasses with side shields
Cut resistant work gloves
Single hearing protection (plugs or muffs) for use of Sawz-All, or within 10 feet of operating Sawz-All or operating portable generator.
Rubber boots with steel toe and slip resistant soles, warm socks
Standard FRC work coveralls with long sleeves
Raingear or other suitable outerwear for the conditions

Air purifying respirators with high-efficiency cartridges, and Tyvek suits, will be used initially until initial air monitoring exposure assessment shows they are not needed.

Work practice controls

Stay out of the "line of fire" when cutting and removing sheet metal.
Route power cords to reduce tripping hazards in walking areas.
Keep hands clear of nip points and cutting edge of saw.
Watch for foxes and do not allow them to approach.
Take warm-up breaks as necessary to stay warm and dry.
Block pipelines before working between them

Task 2. Sealant removal by wet scraping, power wire brushing or grinding

Hazards

Asbestos - No asbestos exposure was measured during air monitoring when sealant was removed dry with power tools and no HEPA vacuum. Therefore, no asbestos exposure is expected for sealant removal by scraping. Exposures are not expected to reach the occupational exposure limits, even during extended shifts. See the negative exposure assessment below.
Airborne asphaltic sealant particles generated by manual removal
Citrus solvent—may cause degreasing of skin
Sharp edges, such as from the scraper
Flying particles
Noise from vacuum cleaner and generator.
Electrical power in use in wet environment
Power cords and vacuum hoses may provide trip hazards.
Cold stress in wet, cool weather
Foxes—may be rabid.
Fire or explosion from ignition source within a classified area

PPE Requirements

Hard hats
Safety glasses with side shields, except when full face respirator is used
Rubber boots with steel toe and slip resistant soles, warm socks
Standard FRC work coveralls with long sleeves
Tyvek suit (single layer only) with hood over FRC coveralls or other clothing.
Nitrile gloves for solvent-enabled scraping and wiping
Insulated leather work gloves optional, nitrile gloves beneath
Raingear or other suitable outerwear for the conditions
Single hearing protection (plugs or muffs) within 10 feet of a generator, power tool user, or portable generator.
Double hearing protection (plugs and muffs) for power grinding or buffing, or work within 10 feet of such tasks.

Half-face or full-face respirator with HEPA cartridges for scraping of sealant until initial air monitoring and exposure assessment shows it is not needed. Workers will only use respirator model for which they have been fit tested and approved. Face shield and goggles are required for power grinding and buffing if a full face respirator is not in use.

Engineering Controls and Work Practices

Establish a regulated area and decon station as indicated in task steps.
Obtain the appropriate work permit for the activity to be performed, including a hot work permit if using electrical or spark producing tools in or near a classified area.
Use drop cloth under removal sites to prevent contamination of tundra.
Use a HEPA vacuum when cleaning up waste. It may be used directly to capture scraped particles as they are released from the surface.
Use a HEPA vacuum as a local exhaust system for all power grinding of sealant.
All power cords must be provided with ground fault circuit interruption.
Keep hands clear of nip points, cutting edges and other hand hazards.
Route power cords and vacuum hoses so as to minimize tripping hazard
Place blocks between pipelines before working between pipelines
Watch for foxes and do not allow them to approach.
Take warm-up breaks as necessary to stay warm and dry.
Block pipelines before working between them.
No smoking, eating or drinking is allowed inside the regulated area.
Promptly clean up any asbestos-containing debris released by the removal process.
Remove used Tyvek coveralls and bag as asbestos waste before leaving the decon area or getting into a vehicle or entering a warm up facility. Leather work gloves may be reused through the shift but should be bagged as waste at the end of the shift.
Do not dry sweep asbestos-containing debris. Debris must be wet when swept.

Note: Be sure to report any injury or unusual condition to a safety advisor, industrial hygienist, or medical person promptly for evaluation.

Procedures To Be Followed If Unexpected Asbestos Is Found

Other parts of the pipeline insulation and support system may contain asbestos. Pipeline components with the potential to contain asbestos include Anchor Blocks, mastic on exterior surfaces of insulation/piping components, or mastic under Polyken pipe wrap. If material that is not in the scope of this procedure is encountered, it is not to be disturbed. The Industrial Hygienist is to be contacted to evaluate the material. If it contains asbestos, a plan will be developed to safely address it.

Procedure To Be Followed During Windy Conditions

Work removing asbestos must not generate visible emissions. If wind conditions are such that asbestos waste is not contained on drop cloths before it is bagged, the site supervisor shall take appropriate action to ensure that there are no visible emissions of

asbestos. This may include stopping sealant removal work, bagging waste, erecting a shelter, or other actions that will prevent visible emissions.

Procedure for Marking Lines as "ACM REMOVED"
After the insulation and sealant have been removed from a segment of transit line and the drop cloths have been moved, a QA/QC Inspector will inspect the area. The Inspector will verify that the pipe has been cleaned of sealant, wiped down and is ready for UT examination. The Inspector will also verify that all the sealant and insulation debris has been cleaned from the surrounding area, and that none remains on the ground.

Once these conditions have been verified, the Inspector will use green spray paint to write "ACM REMOVED" from that pipeline segment. If sealant has not been sufficiently cleaned from the pipeline, or if insulation or sealant debris is found in the pipeline corridor, the deficiencies will be corrected before the line is painted.

Negative Exposure Assessment
The asbestos-containing sealant on the insulation and adhered spottily on the pipeline is intact and non-friable. Removal of sheet metal jackets and foam insulation blocks is not expected to result in any release of fibers because the non-friable sealant is not disturbed in the process and is not rendered potentially friable. Likewise, wet removal of sealant is not expected to generate any significant concentration of asbestos fibers because the sealant effectively holds the fibers in a tight matrix.

GPB Industrial hygienists conducted personal exposure air monitoring, following the OSHA reference method on CCI-employed Alaska certified asbestos workers doing *dry wire-buffing and grinding* removal of the sealant from the pipeline. The air samples were analyzed by an EPA-accredited laboratory using the NIOSH 7400 analytical method. The lab reported that fiber air concentrations were less than the detection limit for the for the sample volumes for all but 2 of the samples. The 2 with detectable fiber levels were well below OSHA Permissible Exposure Limits. The detection limits for the samples ranged from one-tenth to one-third of the OSHA permissible exposure limit. The lab sent the samples to a second laboratory in the Lower 48 for analysis by the more sensitive and asbestos-specific method of transmission electron microscopy (TEM). The method used was EPA Level II. This is the analytical method used for EPA asbestos abatement air clearance in schools. The TEM lab reported that *no asbestos structures were found in nearly all the air samples. A few samples had one to three fibers out of 100 fields examined, which is extremely low.* The reports of this monitoring are on hand in the GPB Industrial Hygiene office, room 155 of the BP Base Operations Center. <u>This objective data supports the conclusion that even dry power brushing and grinding of the sealant does not disturb the sealant in a manner that will cause the release of airborne asbestos fibers that could be inhaled by workers at anywhere near the OSHA 8 hour TWA Permissible Exposure Limit or the 30 minute Excursion Limit.</u>

Removal of foam insulation with intact sealant adhered to it, (Task 1) and the subsequent handling and transfer of the bulk insulation system waste all have far less potential for disturbance than does dry power buffing or grinding, so we conclude that these tasks present no significant potential for asbestos exposure above the OSHA permissible exposure limits.

Removal of adhered sealant from pipeline surfaces will generally be by wet scraping or in some cases by wet power grinding with HEPA exhaust system, both less likely to generate fibers than the test dry grinding method. We therefore conclude that this task presents no significant potential for exposure above the OSHA PEL.

Where rough surfaces such as welds or crevices render hand scraping ineffective, power grinding or buffing may be used. This activity will be conducted using a HEPA-filtered local exhaust system so the exposure potential is expected to be less than during the test power grinding and buffing done without local exhaust. We therefore conclude that this task presents no significant potential for exposure above the OSHA permissible exposure limit.

Additional Air Monitoring

The negative exposure assessment notwithstanding, initial air monitoring will be conducted for crews doing insulation removal and sealant removal as a means of checking the efficacy of controls and the conclusions of the negative exposure assessment. This air monitoring will be conducted by an accredited, independent third party, using OSHA and NIOSH approved methods. Air monitoring will continue until assessments clearly confirm that controls are effective and that exposures are being held well below occupational exposure limits. Workers directly monitored will be informed of these results, as will employees whose exposures are represented by the monitoring.

Procedure, PPE hazard assessment, and negative exposure assessment by:

Michael S. Taylor, CIH, PE
GPB Industrial Hygienist
ABIH Certified Industrial Hygienist #5052
Professional Mechanical Engineer #9016
EPA Accredited Asbestos Building Inspector

Jeffrey A. Carpenter, CIH, CSP
Senior H&S Mgmt Systems Coordinator
ABIH Certified Industrial Hygienist #6357
BCSP Certified Safety Professional
#14252

APPROVED ASBESTOS PLAN CHANGE
DATE 9/27/06
APPROVED BY: (DOL/OSH)
STATE OF ALASKA • DOL/OSH
MAINTAIN AT WORKSITE

September 27, 2006

State of Alaska
Department of Labor & Workforce Development
Labor Standards & Safety
Occupational Safety & Health
Attn: Lara A. Dunham
3301 Eagle Street, Suite 305
Anchorage, AK 99503

Phone: 907-269-4940
Fax: 907-269-4950

Re: **Original Notification (updated)**

VECO Alaska Inc. is submitting the name(s) of the following personnel to be utilized for asbestos abatement on the below mentioned project.

Project Name & Location: GPB Oil Transit Line
BP Project Number: 36337399-15
Project Address: Greater Prudhoe Bay, Alaska

Start Date: 9/8/06 **Completion Date:** 1/01/07

Name:	Certification Card #:	Expiration Date:	Employer:
Robert B. Hausser	19990011	8/28/07	VECO
Dennis Wade	20050888	8/29/07	VECO
Andrew Shearin	20060852	8/28/07	VECO
Brad Washburn	20060853	8/28/07	VECO
Isaac Buckley	20060856	8/28/07	VECO
[redacted]	[redacted]	[redacted]	[redacted]
John Windus-Olson	20060858	8/28/07	VECO
Michael Burris	20060860	8/28/07	VECO
Nathaniel Breaux	20060861	8/28/07	VECO
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
Richard Smith	20060864	8/28/07	VECO
Robert Brown	20060865	8/28/07	VECO
Royce Heathorn	20060866	8/28/07	VECO
[redacted]	[redacted]	8/29/07	VECO
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
Chad Custer	20060872	8/29/07	VECO
Carry Randall	20060873	8/29/07	VECO

Name:	Certification Card #:	Expiration Date:	Employer:
Chris Estrada	20060874	8/29/07	VECO
Douglas Peterson	20060877	8/29/07	VECO
James Kosbruk	20060880	8/29/07	VECO
James Hulstine	20060881	8/29/07	VECO
Jory McDowell	20060883	8/29/07	VECO
Justin Dowell	20060885	8/29/07	VECO
Laurent Dessert	20060886	8/29/07	VECO
Michael Estrada	20060888	8/29/07	VECO
Nathan Simmons	20060891	8/29/07	VECO
Nels Wilson Jr	20060892	8/29/07	VECO
Roland Tresham	20060895	8/29/07	VECO
Ryan Keelan	20060896	8/29/07	VECO
Shawn Beloni	20060897	8/29/07	VECO
STEVEN JOHNSON → [redacted]	[redacted]	[redacted]	VECO
Perry Thomas	19990844	8/29/07	VECO
[redacted]	[redacted]	[redacted]	[redacted]
Patrick Watson	20060910	9/2/07	VECO
[redacted]	[redacted]	9/2/07	VECO
Ray Maisy	20060912	[redacted]	[redacted]
Bobby Foote	20060913	9/2/07	VECO
Clifford Gregg	20060914	8/29/07	VECO
Gregory Elmore	20060915	8/29/07	VECO
Jared Ewing	20060916	8/29/07	VECO
Jessey Draney	20060919	8/29/07	VECO
Lynn Rogers	20060920	8/29/07	VECO
Mark Topp	20060921	8/29/07	VECO
Ronald Sherbahn	20060923	8/29/07	VECO
Samuel Ingram	20060924	8/29/07	VECO
Terry Stephan	20060926	8/29/07	VECO
Larry Johnson	20050626	8/29/07	VECO
[redacted]	[redacted]	9/2/07	[redacted]
Jeffrey Evans	20060918	8/29/07	VECO
Steven Duprey	20060925	8/29/07	VECO
Sid McCullough	19991097	8/29/07	VECO
MD Mozibur Rahman	20050634	8/29/07	VECO
Robert Suvlu	20060932	8/25/07	VECO
Sigwien Kingosak	20060933	8/25/07	VECO
Allen Koonaloak	20060934	8/25/07	VECO
Gerald Kanayurak	20060935	8/25/07	VECO
Christopher Koonaloak	20060936	8/25/07	VECO

Name:	Certification Card #:	Expiration Date:	Employer:
Jesse Ballot	20060937	8/25/07	VECO
John Ipalook	20060938	8/25/07	VECO
Richard Hutchinson	20060939	11/25/07	VECO
Isaac Okakok	20060940	8/25/07	VECO
William Simmons	20060941	8/25/07	VECO
Anthony Akpik	20060942	8/25/07	VECO
Fred Forselles	20060943	8/29/07	VECO
Ira Nukapigak	20060944	8/25/07	VECO
Reed Tresham	20060945	8/29/07	VECO
Fredrick Neakok	20060946	8/25/07	VECO
Clay Hein	20060947	8/29/07	VECO
Warren Lampe	20060948	8/25/07	VECO
Brandon Fishel	20060949	8/25/07	VECO
Charles Rexford	20060951	8/25/07	VECO
Richard Followell	20060952	8/29/07	VECO
Christopher Coles	20060953	8/25/07	VECO
David Smith	20060954	8/29/07	VECO
Raymond Lambrecht	20060955	8/25/07	VECO
[redacted]	[redacted]	[redacted]	[redacted]
John Damer	20060957	8/25/07	VECO
Patrick Brower	20060958	8/25/07	VECO
Peter Poage	20060959	8/29/07	VECO
Gary Mike	20060960	8/29/07	VECO
Alan Kennedy	20060961	8/29/07	VECO
Steven Deacon	20060962	11/28/06	VECO
[redacted]	[redacted]	[redacted]	[redacted]
Aaron Flug	20060964	9/2/07	VECO
[redacted]	[redacted]	[redacted]	[redacted]
Jason Young	20060966	8/29/07	VECO
Rusty Meyer	20060967	9/2/07	VECO
Jason Heinrichs	20060969	8/29/07	VECO
Amanda Summit	20060971	8/29/07	VECO
Dennis Williams	20060972	8/29/07	VECO
Kristopher McCord	20060973	9/2/07	VECO
Adam Malaby	20060974	8/29/07	VECO
Ryan Wilson	20060975	9/2/07	VECO
Travis Smith	20060976	9/2/07	VECO
Pablo Mendez	20060979	8/29/07	VECO
Todd Ritter	20060980	8/29/07	VECO
Eric McDonald	20060981	9/2/07	VECO
Jeffrey Wolcott	20060982	8/29/07	VECO
		9/2/07	VECO

Name:	Certification Card #:	Expiration Date:	Employer:
Alec Tugatuc	20060984	8/29/07	VECO
Michael Wearly	20060985	9/2/07	VECO
Nathan Porterfield	20060986	8/29/07	VECO
Ian Leach	20060987	9/2/07	VECO
William Hughes	20060988	8/29/07	VECO
Jordan Woods	20060989	8/29/07	VECO
Nick Long	20060990	9/2/07	VECO
Tim Apted	20060991	9/2/07	VECO
Tyler Moore	20060993	9/2/07	VECO
Richard Wagner	20060994	9/2/07	VECO
Emil Anderson	20060995	8/29/07	VECO
Christopher Johnson	20060996	8/29/07	VECO
Joe Kameroff Jr	20060997	8/29/07	VECO
Benjamin Craig	20061014	9/9/07	VECO
Jason Garrett	20061015	9/9/07	VECO
Jesse Wearly	20061017	9/9/07	VECO
John Kelgard	20061018	9/9/07	VECO
Stephen Brossard	20061019	9/9/07	VECO
Tyler Gawley	20061020	9/9/07	VECO
Corie Spruill	20061022	9/9/07	VECO
David Thomas	20061023	9/9/07	VECO
Del Crawford	20061024	9/9/07	VECO
Jason Haas	20061025	9/9/07	VECO
Jon Dupont	20061026	9/9/07	VECO
Justin Strode	20061027	9/9/07	VECO
Kevin Lewis	20061028	9/9/07	VECO
Russell Warren	20061030	9/9/07	VECO
Thomas Heinrichs	20061031	9/9/07	VECO
Thomas Stepnosky	20061032	9/9/07	VECO
Travis Crane	20061033	9/9/07	VECO
Daryl Baker	20061099	9/12/07	VECO
Shawn Belotti	20060897	9/12/07	VECO
John Brown	20061101	9/25/07	VECO
Ryan Busch	20061083	9/25/07	VECO
Nicholas Conway	20061080	9/25/07	VECO
Edward Cook	20060855	9/25/07	VECO
Tracy DeFrance	20060957	9/25/07	VECO
Charles Doubek	20061069	9/25/07	VECO
Justin Dowell	20060885	9/25/07	VECO
Chester Dyson	20061070	9/25/07	VECO
Joshua Firth	20061078	9/25/07	VECO
Keith Fullbright	20060983	9/25/07	VECO
Joel Gallagher	20061076	9/25/07	VECO

Name:	Certification Card #:	Expiration Date:	Employer:
Joshua Granstein	20061102	9/25/07	VECO
Koong Henry	20061105	9/25/07	VECO
Ryan Hite	20061084	9/25/07	VECO
Trevor Hite	20061087	9/25/07	VECO
Robin Huston	20061110	9/25/07	VECO
Axel Joe	20061097	9/25/07	VECO
John Joe	20061077	9/25/07	VECO
Ryan Johanson	20061085	9/25/07	VECO
Michael Johnson	20061108	9/25/07	VECO
Ronny Krause	20061082	9/25/07	VECO
Charles LeBlanc	20061098	9/25/07	VECO
Cord Lewis	20061071	9/25/07	VECO
Alan Lokke	20061094	9/25/07	VECO
Jason Lopez	20061074	9/25/07	VECO
Chad Mills	20061068	9/25/07	VECO
Dalvin Ocampo	20061072	9/25/07	VECO
Martin O'Sullivan	20061107	9/25/07	VECO
Nicholas Pegues	20061109	9/25/07	VECO
Byron Poindexter	20060871	9/25/07	VECO
Joshua Price	20061103	9/25/07	VECO
P. Salauza Jr.	20061081	9/25/07	VECO
Bryan Seymore	20061067	9/26/07	VECO
Joe Seymore	20061075	9/26/07	VECO
James Snow	20061073	9/26/07	VECO
Larry Stepetin	20061106	9/26/07	VECO
Keith Swaby	20061079	9/26/07	VECO
Justin Vasquez	20061104	9/26/07	VECO
Theodore Willoya	20061086	9/26/07	VECO

Scope of Work: Remove Pipeline Mastic from the GC-2 Oil Transit Line, which runs from GC-2 to Skid 50.

If you have any questions about this notification, please call Amanda Finnegan 907-762-1193 or 907-350-9568.

Sincerely,

Amanda Finnegan
VECO Alaska, Inc.

Kenny A. Olsen
for Amanda Finnegan

111 W. 16th Ave, Suite 401
Anchorage, Alaska 99501

Phone 907 258-5755
Fax 907 258-5766

Date: September 21, 2006

State of Alaska, Department of Labor
AKOSH
3301 Eagle Street, Suite 305
Anchorage, AK 99503
Tel: (907) 269-4940
Fax: (907) 269-4950

Amendment 4

CCI, Inc. is requesting approval for the following personnel to be used to remove and package asbestos containing clamshell oil transit line insulation that has been coated with asbestos containing mastic. The amount of ACM is interspersed within 22 miles worth of piping, so an exact amount of material to be removed is nearly impossible to calculate. In addition, a portion of this insulation was removed prior to the discovery of the ACM.

Project Name and Location:	GPB OT-13 Line, Prudhoe Bay
Removal Contractor:	CCI, Inc.
Project Duration:	September 8 thru November 1, 2006

Employee	Certification	Expiration
Gilbert Castro	19971096	10/29/06
Tyeen Taylor	20060828	08/18/07
Andrew Jacoy	20020288	02/14/07
Mario Rodriguez	20030141	02/14/07
Jason Ashenfelter	20060917	08/29/07
Deng Badang	20060876	08/29/07
Danne Barber	19990264	08/28/07
Michael Dirks	20060922	08/29/07
Paul Matlock	20060894	08/29/07
Gary Poorboy	20060878	08/29/07
Patrick Riley	20060893	08/29/07
Christopher Schelet	20060875	08/29/07
Grant Walther	20060879	08/29/07
Michael Woodward	20060889	08/29/07
David Guze	20060854	08/28/07
John Luick ✓	20060852	08/29/07
Michael Dirks, Sr	20060922	08/29/07
Jeff Hanna	20060950	08/29/07
Shawn Johnson	20060968	09/02/07

Timothy Gall, Jr	20060970	09/02/07
David Hodgdon	20061035	09/11/07
Donald Totemoff	20061036	09/11/07
Edward Bekoalok	20061037	09/11/07
Gabriel Trefon	20061038	09/11/07
Gary Shellikoff	20061039	09/11/07
Gerald Taylor	20061040	09/11/07
Gregory McMullen	20061041	09/11/07
Howard Anderson	20061042	09/11/07
Kehl McCarl	20061043	09/11/07
Matthew Balluta	20061044	09/11/07
Michael Mendenhal.	20061045	09/11/07
Mike Perez	20061046	09/11/07
Moses Graham	20061047	09/11/07
Niel Nelson	20061048	09/11/07
Patrick Alvarado	20061049	09/11/07
Peter Wilber	20061050	09/11/07
Richard Fricke	20061051	09/11/07
Ricki Freiriech	20061052	09/11/07
Sean Stapanoff	20061053	09/11/07
Shawn LeBaron	20061054	09/11/07
Virgil Delkitte	20061055	09/11/07
David Brahman	00004991	03/17/07
Jason Willard	20061016	09/09/07
[redacted]	20050171	09/09/07
William Middleton	20061021	09/09/07
Jerome Karella	19990984	09/09/07
Loren Hendrickson	20061029	12/09/06
Hayden Kroto	20060977	09/02/07
Daniel Derr	20050446	05/06/07
Jack Derr	20060315	04/21/07
John Buckley	00007089	03/25/07

The amendments from previous requests will be notated by bold lettering. This list will be updated frequently as new employees and rotational employees are utilized on the project. Please do not hesitate to contact me at (907) 258-5755 with any questions or requests for additional information.

Sincerely,

Nick Kuhlmann
Project Manager

APPROVED ASBESTOS PLAN CHANGE
DATE 9/21/06
APPROVED BY: [signature]
STATE OF ALASKA - DOL/OSH
MAINTAIN AT WORKSITE

PENCO
PACIFIC ENVIRONMENTAL
CORPORATION

[illegible] A Street
Anchorage, AK [illegible]
Phone (907) [illegible]
Fax (907) [illegible]

October 5, 2006

State of Alaska
Department of Labor
3301 Eagle Street, Suite 305
Anchorage, AK 99503

PENCO hereby gives notification and submits the names and certification numbers of the following personnel for the review and approval by the Department of Labor prior to commencement of work for the project as stated below:

Name of Project: GPB OIL TRANSIT LINE

Location of Project: Greater Prudhoe Bay, Alaska

BP Project Number: 36337399-15

Start Date: October 7, 2006 Completion Date: January 1, 2007

Name	Certification Number	Exp. Date
G. Philip McBorley	19990650	8/5/2007
Anthony Oliveri	20061129	9/22/2007
Joshua Pettis	20061137	9/22/2007

Thank you!

Respectfully,

Richard Wilson
PENCO Division Manager

INITIAL ASBESTOS PLAN APPROVAL
DATE 10/5/06
APPROVED BY: (LHD)
STATE OF ALASKA • DOL/OSH
MAINTAIN AT WORKSITE

PENCO
PACIFIC ENVIRONMENTAL
CORPORATION

[illegible] A Street
Anchorage, AK [illegible]
Phone (907) [illegible]
Fax (907) [illegible]

September 8, 2006

INITIAL ASBESTOS PLAN APPROVAL
DATE 9/8/06
APPROVED BY: [illegible]
STATE OF ALASKA - LSS/OSH
MAINTAIN AT WORKSITE

State of Alaska
Department of Labor
3301 Eagle Street, Suite 305
Anchorage, AK 99503

PENCO hereby gives notification and submits the names and certification numbers of the following personnel for the review and approval by the Department of Labor prior to commencement of work for the project as stated below:

Name of Project: GPB OIL TRANSIT LINE

Location of Project: Greater Prudhoe Bay, Alaska

BP Project Number: 36337389-15

Start Date: September 11, 2006 Completion Date: January 1, 2007

Name	Certification Number	Exp. Date
Sonya Lockwood	20040495	7/18/2007
Roger Ihde	00005527	7/11/2007
Thomas Charles	20001292	10/27/2006
Fritz Corpus	00003549	3/14/2007
Ken Petro	19980555	4/9/2007
Margaret Black	20060630	6/18/2007
Robert Henderson	20020732	5/17/2007

Thank you!

Respectfully,

Richard Wilson
PENCO Division Manager

[illegible], Pier 14, Honolulu, HI [illegible]
Phone (808) [illegible] Fax (808) [illegible]
[illegible] L.A., Terminal Island, CA [illegible]
Phone (310) [illegible] Fax (310) [illegible]

PENCO
PACIFIC ENVIRONMENTAL CORPORATION

[illegible] A Street
Anchorage, AK [illegible]
Phone (907) [illegible]
Fax (907) [illegible]

September 12, 2006

INITIAL ASBESTOS PLAN APPROVAL
DATE 9/12/06
APPROVED BY: CLAD
STATE OF ALASKA • DOL/OSH
MAINTAIN AT WORKSITE

State of Alaska
Department of Labor
3301 Eagle Street, Suite 305
Anchorage, AK 99503

PENCO hereby gives notification and submits the names and certification numbers of the following personnel for the review and approval by the Department of Labor prior to commencement of work for the project as stated below:

Name of Project: GPB OIL TRANSIT LINE

Location of Project: Greater Prudhoe Bay, Alaska

BP Project Number: 38337389-15

Start Date: September 13, 2006 Completion Date: January 1, 2007

Name	Certification Number	Exp. Date
Nathan Jackson	20030774	4/1/2007
Jose Luna	00004954	3/10/2007
Daniel Turner	20060196	8/17/2007
Knute Rockney	19981171	4/24/2007
Rafael Campos	20060466	5/26/2007
Terrence Jones	20040132	2/13/2007
Eric Ward	20060092	2/17/2007
Eddie Lott	20000239	2/13/2007

Thank you!

Respectfully,

Richard Wilson
PENCO Division Manager

PENCO
PACIFIC ENVIRONMENTAL
C O R P O R A T I O N

6900 A Street
Anchorage, AK 99518
Phone (907) 562-5420
Fax (907) 562-5426

INITIAL ASBESTOS PLAN APPROVAL
DATE: 9/26/06
APPROVED BY: [illegible]
STATE OF ALASKA DOL/OSH
MAINTAIN AT WORK SITE

September 26, 2006

State of Alaska
Department of Labor
3301 Eagle Street, Suite 305
Anchorage, AK 99503

PENCO hereby gives notification and submits the names and certification numbers of the following personnel for the review and approval by the Department of Labor prior to commencement of work for the project as stated below.

Name of Project: GPB OIL TRANSIT LINE

Location of Project: Greater Prudhoe Bay, Alaska

BP Project Number: 36337999-15

Start Date: September 27, 2006 Completion Date: January 1, 2007

Name	Certification Number	Exp. Date
Erin Moorhead	20061127	9/22/2007
Sacha Ragsdale	20020279	9/22/2007
Greg Keef	20061128	9/22/2007
Brett Krawczyk	20061132	9/22/2007
Steve Lind	20061113	9/22/2007
Patrick Land	20061131	9/22/2007
Jeff Williams	00006374	6/7/2007
Brett Zirlott	20061112	9/22/2007
Jason Postishek	20040072	1/30/2007
Anthony Clark	20050100	2/11/2007
Jason Bays	20061133	9/22/2007

Thank you!

Respectfully,

Richard Wilson
PENCO Division Manager

PENCO
PACIFIC ENVIRONMENTAL
CORPORATION

[illegible] A Street
Anchorage, AK [illegible]
Phone (907) [illegible]
Fax (907) [illegible]

September 15, 2006

State of Alaska
Department of Labor
3301 Eagle Street, Suite 305
Anchorage, AK 99503

PENCO hereby gives notification and submits the names and certification numbers of the following personnel for the review and approval by the Department of Labor prior to commencement of work for the project as stated below:

Name of Project: GPB OIL TRANSIT LINE

Location of Project: Greater Prudhoe Bay, Alaska

BP Project Number: 38337388-15

Start Date: September 16, 2006 Completion Date: January 1, 2007

Name	Certification Number	Exp. Date
John Broach	00001977	4/6/2007
Lou Kiss	20051045	10/14/2006
Jeremy Eichenberger	20050104	2/11/2007
Damian Cass	20040538	8/5/2007
Jack Derr	20060315	4/21/2007
Daniel Derr	20050446	5/06/2007

Thank you!

Respectfully,

Richard Wilson
PENCO Division Manager

INITIAL ASBESTOS PLAN APPROVAL
DATE 9/15/06
APPROVED BY: (LAD)
STATE OF ALASKA - DOL/OSH
MAINTAIN AT WORKSITE

96 N Nimitz Highway, Pier 14, Honolulu, HI [illegible]
Phone ([illegible]) [illegible] Fax ([illegible]) [illegible]
[illegible] Berth 271/271 L.A., Terminal Island, CA 90731
Phone (310) [illegible] Fax (310) [illegible]

PHOTO IDENTIFICATION LOG SHEET

Site Code: BPXA, Transit Pipelines **Date:** 9/25-27/2006

Inspector/Photographer: John Pavitt, EPA, Region 10, AOO/A

Camera: CASIO EXILIM 5.0 Mega Pixels, 3X Optical Zoom

Photo	Time	Description	Sample No.
1	5:43 p.m.	**DAY ONE. 9/25/06.** Site Identification. View of transit pipeline running from GC-3 to Pump Station 1. Previously abated.	
2		Exposed pipeline. Insulation material has been stripped for corrosion testing, using ultrasonic testing (AUT).	
3		Numbers such as "6100" mean this location is 6100 ft. from GC-3. AUT was completed on 9/18/06.	
4		BPXA's Industrial Hygienist Mike Taylor points out a weld seam on transit pipeline. Pipe is warm to the touch.	
5		Looking towards GC-3, a bare section of pipeline has not yet been abated. This photo shows the thickness of the insulation material on the pipeline in the background, compared to the bare pipeline in the foreground.	
6		The pipeline had to be supported with wood blocks, when gravel was removed to allow for AUT.	
7		"Transit Oil Pipeline" sign posted between GC-3 and Pump Station 1.	
8		Location 5340 ft. along same transit pipeline.	
9		Closer view of location 5340 ft. The notations on the pipeline were made on 8/11/06, about 10 days before BPXA tested mastic material for asbestos content.	
10		Close up of photo No. 9. Blurred.	
11		Similar to photo No. 10. Blurred.	
12	6:03 p.m.	BPXA's Mike Taylor in his office shows me a sample he collected of pipeline foam insulation with thin black mastic layer on top. The mastic has consistently tested positive for asbestos, 5-10 % Chrysotile.	

Photo	Time	Description	Sample No.
13	10:21 a.m.	**DAY TWO. 9/26/06.** Transit pipelines near BPXA's Crude Oil Topping Unit (COTU), adjacent to PBOC and the Main Construction Camp. This area is within the Eastern Operating Area (EOA), formerly owned and operated by ARCO. The facility was getting ready to tie in a "jumper" line, where they would bypass the existing transit line to bring oil from the Endicott Field. Sampling in this area on 8/31/06 tested negative for asbestos (See Attachment No. 15). Facility representatives stated that ARCO had previously replaced insulation in the EOA, except for lines buried at road crossings, etc.	Samples collected by White Environ. Labs.
14		Exposed transit pipeline near the COTU tie-in area.	
15		Transit pipelines near the COTU. Note black tape on surface of pipeline. BPXA has identified the taped areas as a potential source of asbestos, when tape is pulled off of pipes.	
16		Markings on transit pipeline near COTU.	
17		Transit pipelines running through cement blocks. The facility has identified these areas as a potential source of asbestos, because it's unlikely ARCO would have removed insulation from pipes located within the cement blocks.	
18		Closer view of photo No. 17.	
19		Various exposed pipelines near COTU and Flow Station 2 (FS 2).	
20		Closer view of photo No. 19. Note "Caution" tape tied on pipeline. This section of pipe apparently runs from FS 1 to FS2.	
21		Entering Zone – 1 of asbestos abatement and pipeline corrosion testing, near GC-1. See Attachment No. 13 for aerial view of the work area.	
22		Signs posted at entrance to Zone – 1.	
23		A technician is conducting corrosion testing, using the EMAT procedure. This section of pipeline has been abated in preparation for the testing.	
24		Note markings on transit pipeline, "ACM Removed."	
25		Closer view of photo No. 24.	
26		Notations on pipeline re: EMAT testing on 9/25.	

Photo	Time	Description	Sample No.
27		Transit pipeline location 3040 ft., near GC-1. Some pipe insulation has been removed and the pipeline abated here, up until location 3043 ft.	
28		Asbestos abatement workers actively removing mastic material. Work shifts are around the clock, hence the need for flood lights.	
29		Abatement workers have put up warning tape to mark the work area. The abated pipe is behind the worker to the right.	
30		Abatement workers using orange solvent to wipe mastic from the warm pipe surfaces.	
31		Abatement workers have placed plastic sheeting beneath the work area.	
32		Asbestos waste consolidation area.	
33		Wastes in bags, including protective blue suites which would be contaminated with asbestos. Bags are labeled with asbestos danger warnings.	
34		Abatement worker suing HEPA vacuum to clean waste bags.	
35		Closer view of photo No. 34. Worker is sealing bag. Note his orange gloves have turned black from handling mastic.	
36		Scaffolding has been placed along transit pipelines to allow workers to walk the area. The cleaned pipe appears rust colored in the background.	
37		View of work area.	
38		This work area, location 3946 ft., has yet to be abated. In preparation, another crew came along and removed the outer steel jacket and foam insulation. Note black mastic in vertical strip at location 3948 ft.	
39		Closer view of photo No. 38.	
40		View of pipeline location 3939 – 3942 ft. To be abated.	
41		Pipeline location 3928 ft. Note black mastic stuck on pipe surface, including along pipe weld at the top surface.	
42		Pipeline location 3923 ft. Example of smaller, "quarter-size" patches of black mastic, and along weld seams.	

Photo	Time	Description	Sample No.
43		Pipeline location 3918 ft. Note black mastic along seam welds as well as yellowish foam residue remaining after foam insulation was removed.	
44		Asbestos Waste Storage Area. Contractor CCI collects bags of waste from the field and brings it here for storage. Located on the same pad as BPXA's Base Operation Camp BOC.	
45		Asbestos warning label on wooden crate holding bags of Regulated Asbestos Containing Material (RACM) waste.	
46		Hand writing on the waste crates, indicating the wastes comes from more than one site.	
47		Bags of orange-yellow foam insulation debris from the transit pipeline project. Foam is broken up into many small pieces. Bags are intact. The foam itself is asbestos-free, but any black mastic adhering to it has consistently tested positive for asbestos.	
48		View of RACM wastes in crate.	
49		View of RACM wastes in crate.	
50		View of RACM Wastes in crate. Black mastic or perhaps blue plastic is in bag with the wastes.	
51		A second crate stored outdoors at BPXA's Asbestos Waste Storage Area. Hand writing on the crate again shows the crate is holding wastes from more than one location. "OTL" indicates Oil Transit Line.	
52		The bags in this crate are sealed and intact as well.	
53		This bag is labeled as containing popcorn ceiling material, coming from Annex 1, a separate abatement project.	
54		The crate is lined and bags are sealed.	
55		Tag on one bag in the second crate. "BP OTL-13."	
56		Waste storage inside a locked connex shipping container.	
57		Three crates, similarly labeled and sealed are stored in this connex. Wastes come from multiple job sites.	
58		View of the three crates in storage.	
59		Active abatement work area, near GC-2. Workers removed outer steel jacketing and foam insulation from the pipeline.	

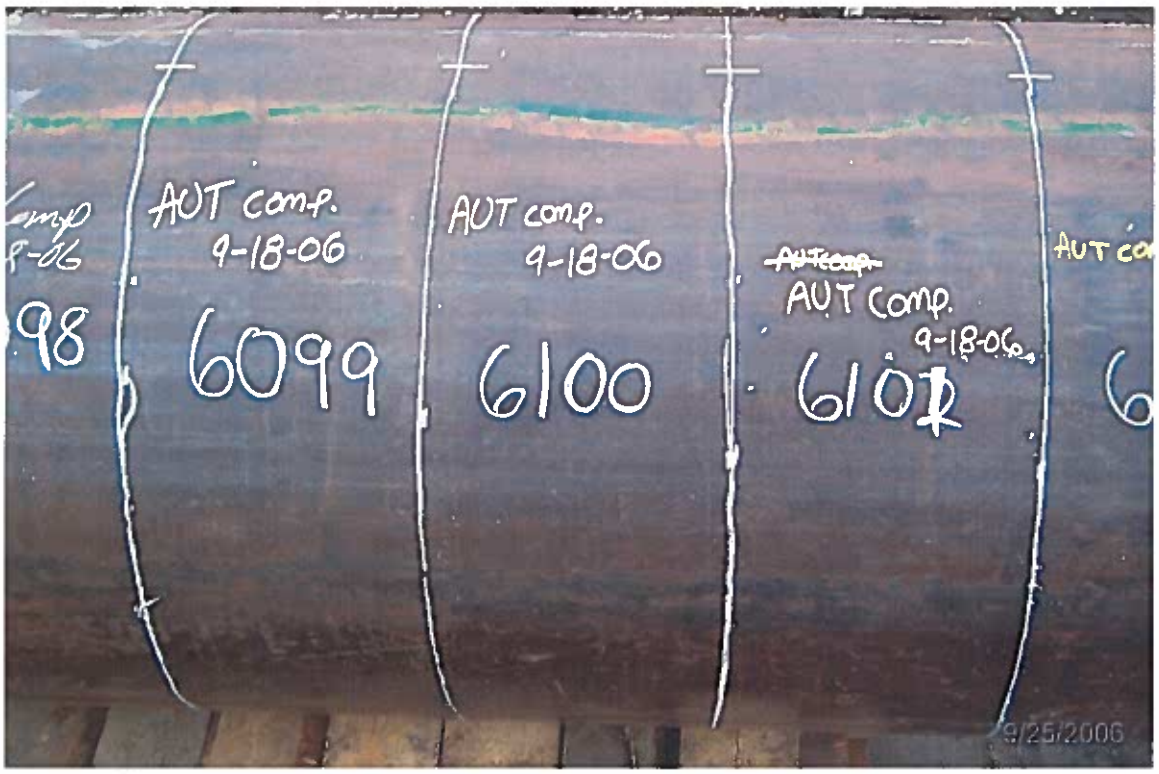
Photo	Time	Description	Sample No.
60		Abatement workers carefully remove intact section of foam insulation. The steel jacketing has been folded and placed on plastic sheeting beneath.	
61		Asbestos Warning tape has been set up around the work area. Wastes were not broken up other than some slight incidental breakage.	
62		View of sections of urethane foam insulation, half-rounds, with black mastic asbestos containing material applied to the inside surfaces.	
63		View of abatement activity, continuing. This crew is preparing the area for a second shift which will use solvent to wipe mastic residue from pipeline surfaces.	
64		Close view of half-round foam sections, stacked.	
65		View of active abatement work area. Note some orange-yellow foam insulation has stuck to the pipeline in the background. This will have to be abated. Mastic material is holding the foam to the pipeline.	
66		View of prepared pipeline, with mastic visible along seam on top surface.	
67		Closer view of photo No. 66. Mastic material along weld seam.	
68		HEPA (high efficiency) vacuum is staged at the work entry/exit area.	
69		The vacuum is clearly labeled.	
70	3:25 p.m.	The vacuum hose end has been taped shut while not in use, to prevent escape of asbestos fibers.	
71	7:51 a.m.	DAY THREE. 9/27/06. North Slope Borough Oxbow Landfill. Sign posted at landfill office w/ contact information.	
72		Sign posted at landfill office, stating the landfill will not accept hazardous wastes.	
73		Asbestos Warning sign posted at entrance to working area of landfill.	
74		Closer view of warning sign.	
75		Buried (for the most part) foam insulation waste material from the transit pipeline project. The landfill is managing the waste as non-RACM wastes.	

Photo	Time	Description	Sample No.
76		Warning sign and fence barrier for the asbestos waste deposit area.	
77		Closer view of warning sign.	
78		View of mostly-buried foam and mastic wastes from transit pipeline project.	
79		I found a yellow bag in the pile at the landfill, which BPXA representatives believed was general non-regulated wastes. All asbestos wastes are being collected in clear bags.	
80		View of foam insulation w/ mastic, now broken up from being driven over at the landfill in the burial process.	
81		Wind fence around the asbestos waste burial area.	
82	8:56 a.m.	More wind fencing around the asbestos waste burial area. The chain link fence in the background marks the landfill boundary.	

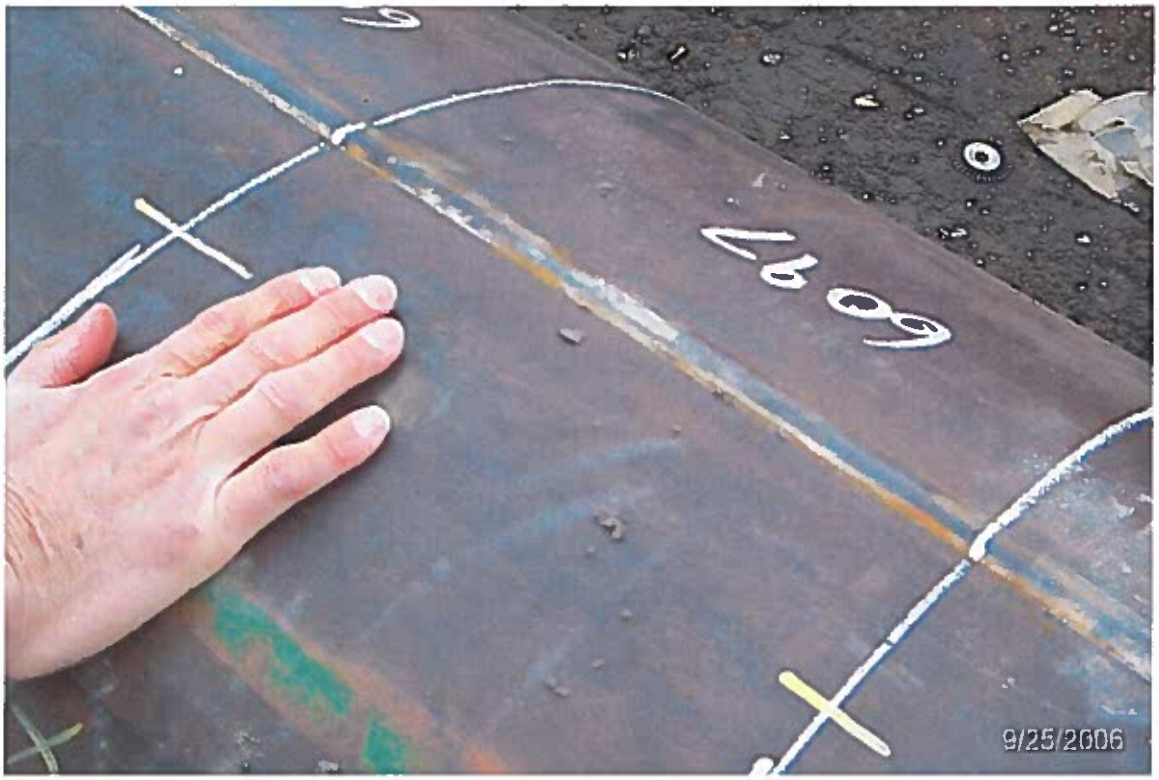
Day 1

(1)

(2)


AUT comp.
9-18-06
6099
AUT comp.
9-18-06
6100
~~AUT comp.~~
AUT Comp.
9-18-06
6101
9/25/2006

(3)


6097
9/25/2006

(4)


ACM Mastic
9/25/2006

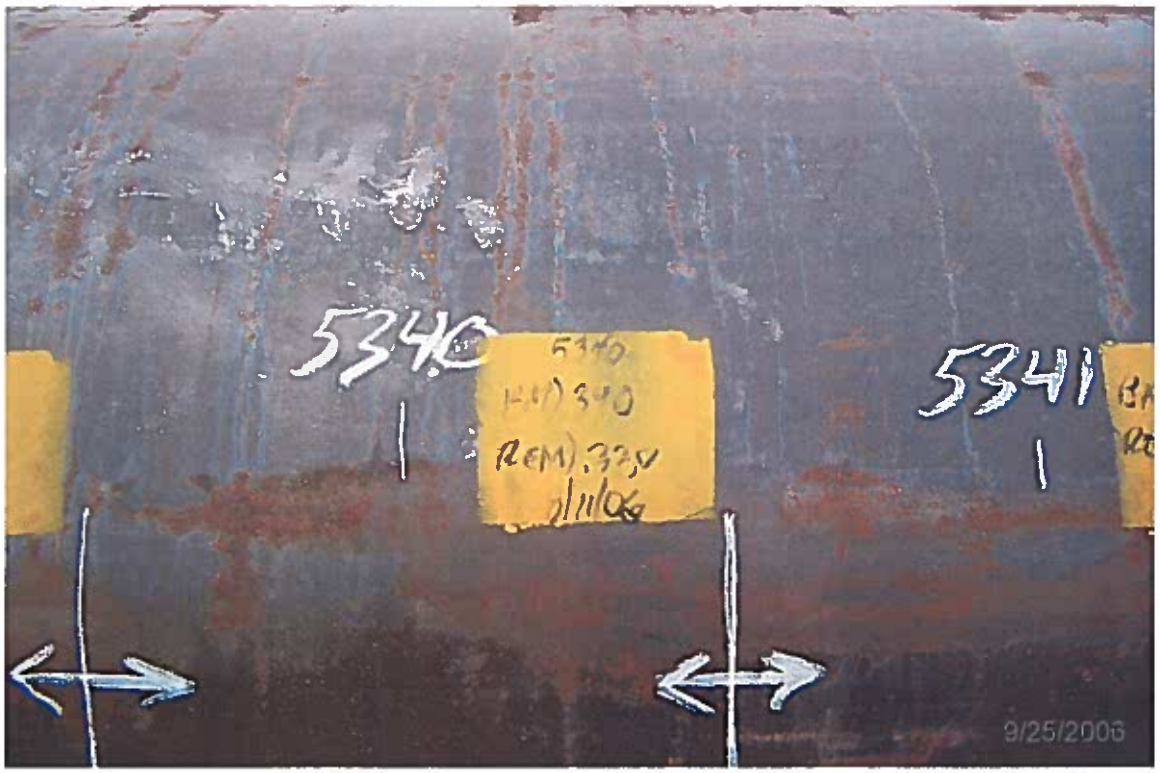
5


6097
6098
AUT COMP. 9-18-06
6099
AUT COMP. 9-18-06
6100
AUT COMP. 9-18-06
6101
AUT COMP. 9-18-06
6102
AUT COMP. 9/19/06
6103

6

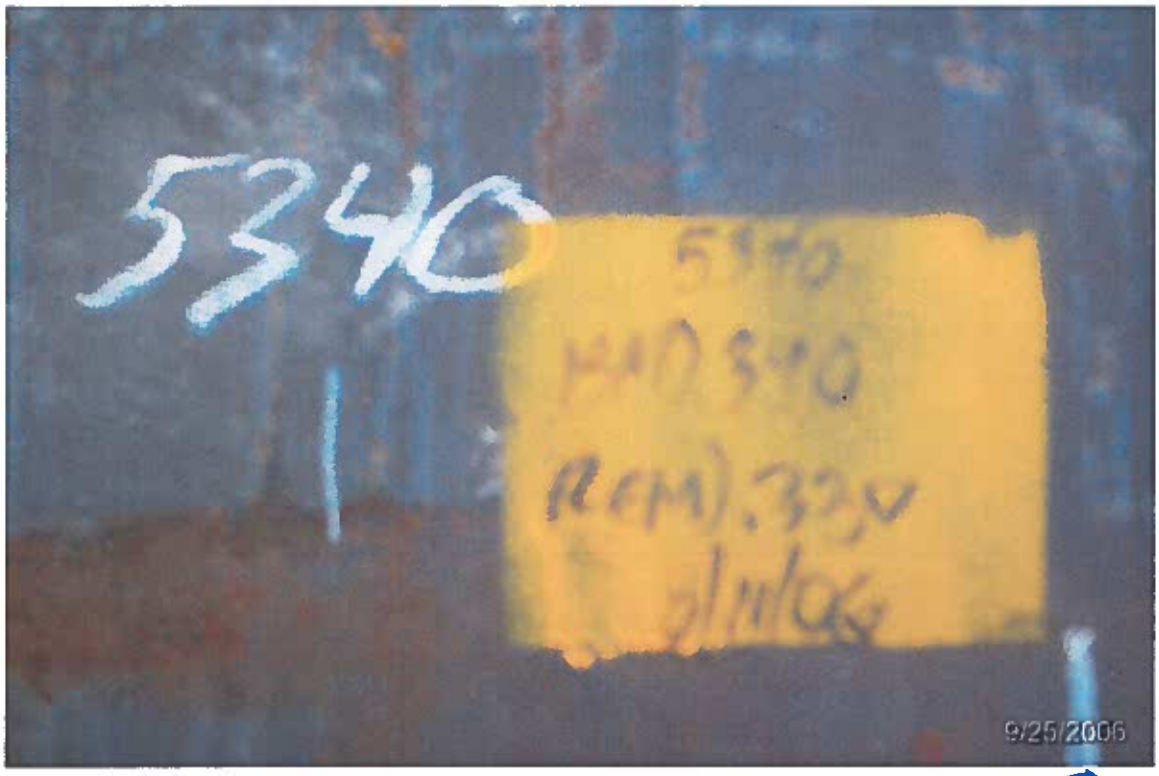
(7)

(8)



(9)

(10)



(11)

(12)

DAY 2

13

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(17)

(18)

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ACM REMOVED
003
9/26/2006

25


EMAT OR EC START
EMAT 9/25
KLH
9/26/2006

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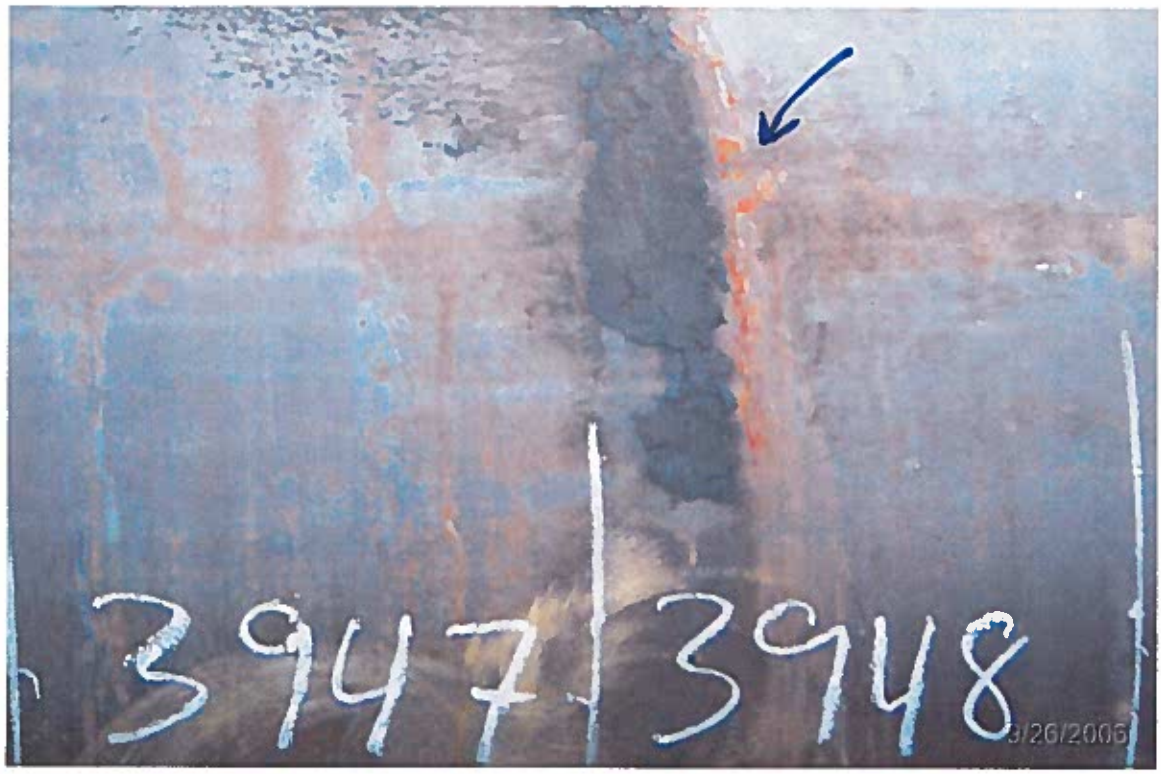

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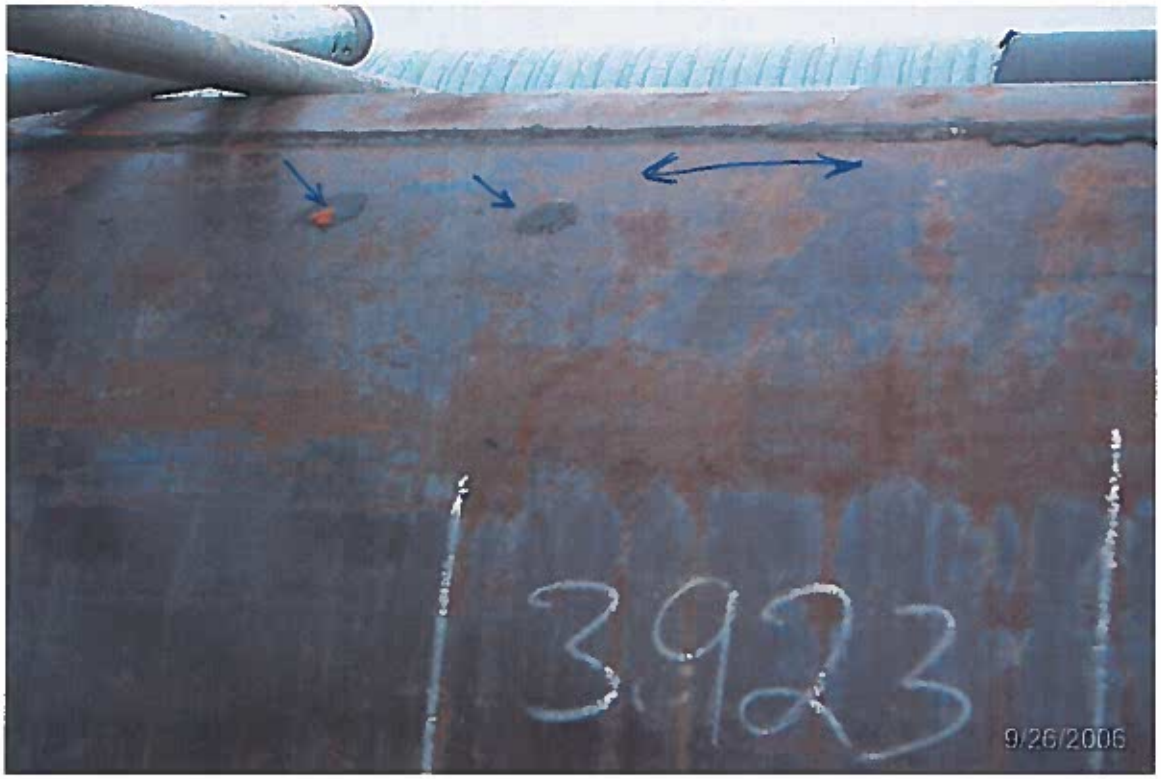

42

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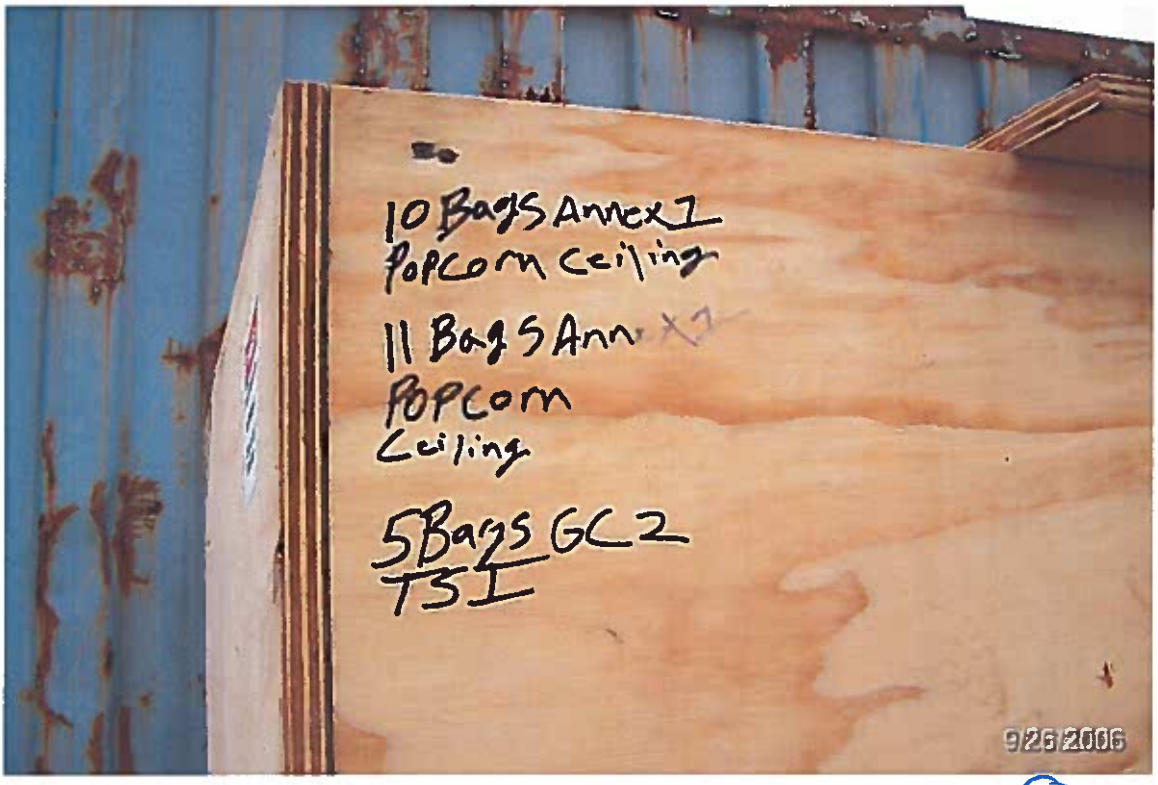
44


DANGER
9/26/2006

45


10 Bags Annex 7
Popcorn Ceiling
11 Bags Ann. X7
Popcorn
Ceiling
5 Bags GC2
TSI
9/26/2006

46

47

48

49

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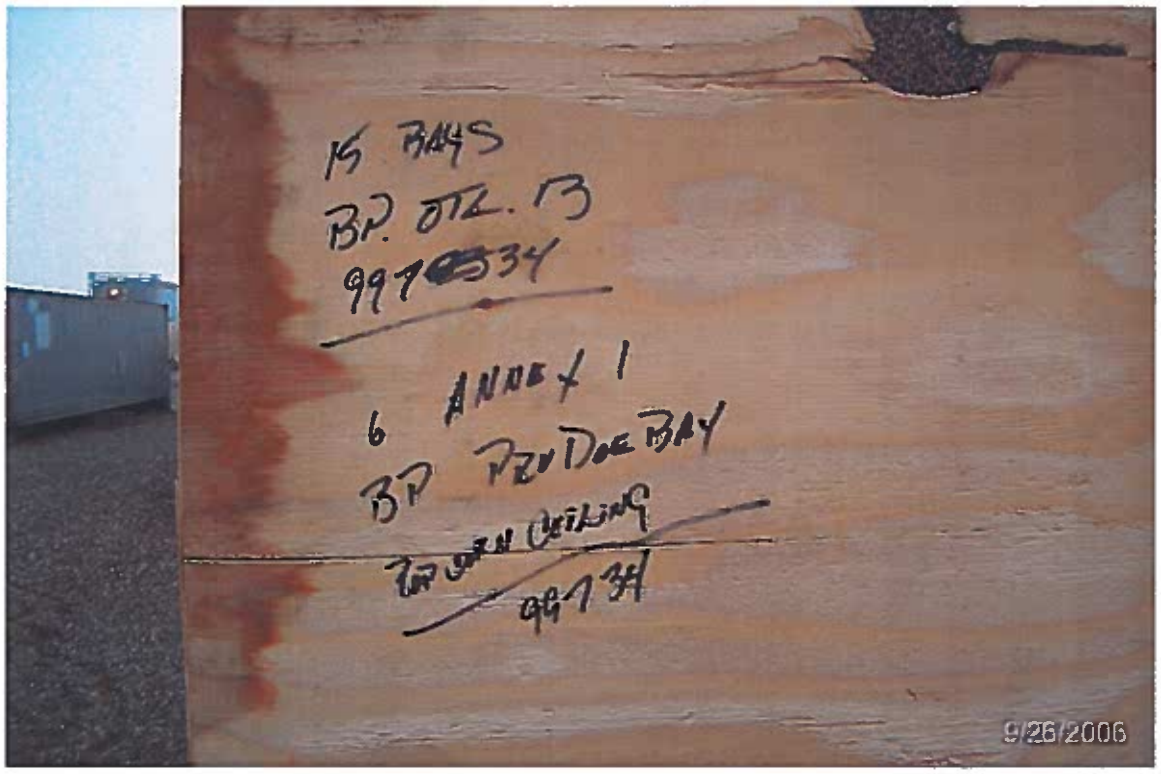
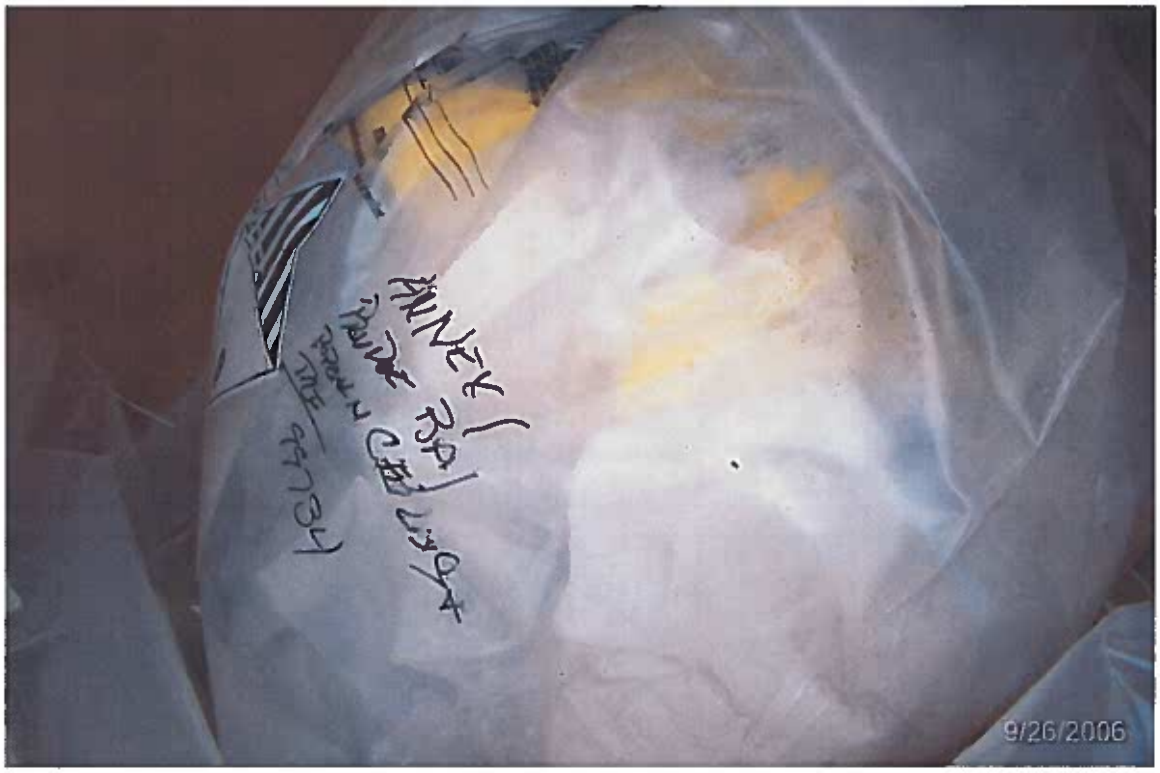

15 BAYS
BP OTZ. 13
9971534
6 ANNEX 1
BP PRUDHOE BAY
9971534
9/26/2006

51


9/26/2006

52



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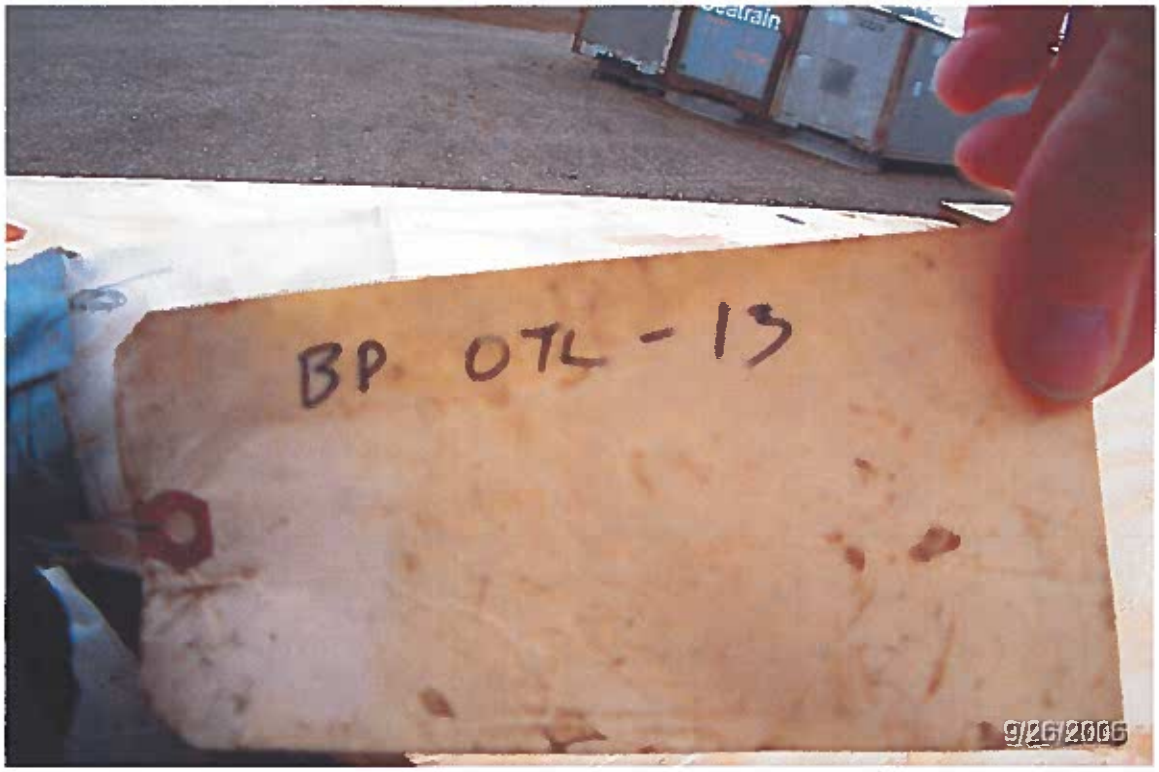
BP OTL-13
9/26/2005

55


DANGER
CAUTION
DANGER
NO SMOKING, MATCHES
OR OPEN LIGHTS
9/26/2005

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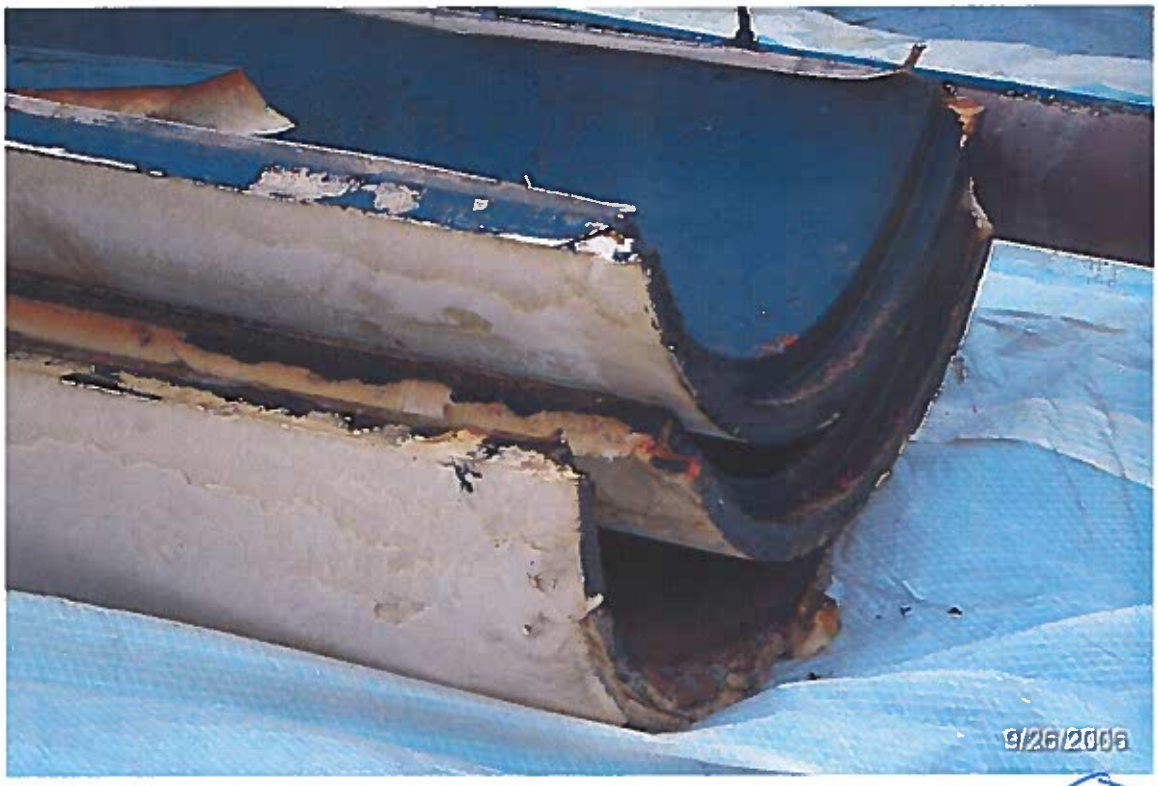

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HEPA
⚠ WARNING
Hepa Filter Must be Installed While Working with Hazardous Materials. Failure to do so will expose People in the work area and others to Hazardous materials which is a serious health risk.
9/26/2006

69

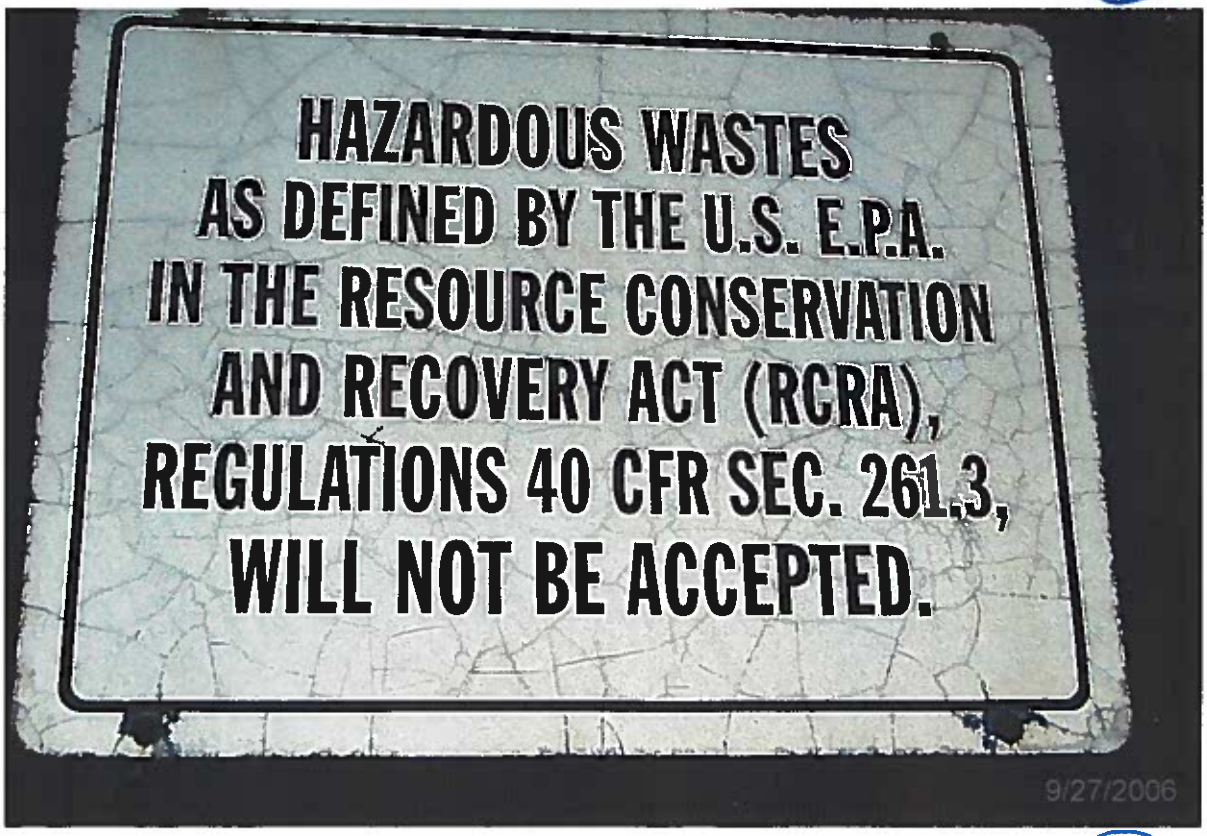

9/26/2006

70

DAY 3


OXBOW LANDFILL
OPERATED BY:
ICE SERVICES, INC.
OWNER: NORTH SLOPE BOROUGH
CHECK WITH OPERATOR BEFORE
ENTERING THE LANDFILL.
FOR ADDITIONAL INFORMATION
CALL 659-0124 OR 659-0114
IN CASE OF FIRE CALL
THE BP FIRE DEPT. 659-5300
9/27/2006

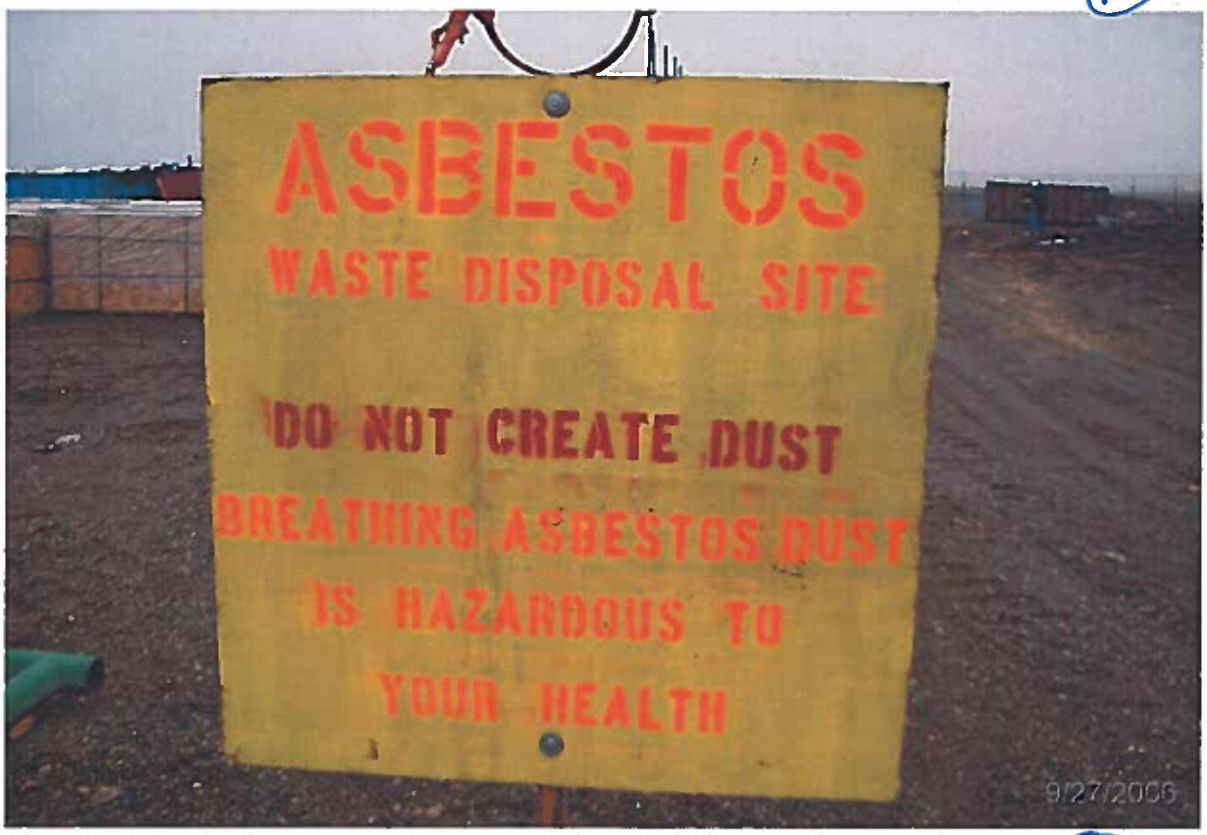
71


HAZARDOUS WASTES
AS DEFINED BY THE U.S. E.P.A.
IN THE RESOURCE CONSERVATION
AND RECOVERY ACT (RCRA),
REGULATIONS 40 CFR SEC. 261.3,
WILL NOT BE ACCEPTED.
9/27/2006

72


ASBESTOS
WASTE DISPOSAL SITE
DO NOT CREATE DUST
BREATHING ASBESTOS DUST
IS HAZARDOUS TO
YOUR HEALTH
9/27/2006

73


ASBESTOS
WASTE DISPOSAL SITE
DO NOT CREATE DUST
BREATHING ASBESTOS DUST
IS HAZARDOUS TO
YOUR HEALTH
9/27/2006

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76


DANGER
ASBESTOS DUST HAZARD
CANCER AND LUNG DISEASE HAZARD
Authorized Personnel Only
9/27/2006

77


9/27/2006

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MATERIAL SAFETY DATA SHEET

4340

SEAL KOTE
COMMON NAME

Manufacturer's Name	LION OIL COMPANY	Emergency Phone No.	501/862-8111
Address	1000 McHenry Street, El Dorado, AR 71730	Chemtrec	1-800-424-9300
Signature of Person Responsible for Preparation	W.C. Buchanan, Chief Chemist	LOC Number	158K
		Date:	October 30, 1985

SECTION I. IDENTITY OF MATERIAL

Product Name or Number	Lion Nokorode Seal Kote				
Synonyms	Petroleum Asphalt Mastic	CAS Number	Mixture	Chemical Family	Petroleum Hydrocarbons
Regulated Identification	DOT Proper Shipping Name	N/A	DOT Hazard Class	N/A	
	Shipping ID Number	N/A	EPA Hazardous Waste ID Number	N/A	

SECTION 2. HAZARD SPECIFICATIONS

Known Hazards under 29 CFR 1910.1200

	Yes	No		Yes	No		Yes	No
Combustible Liquid	X		Corrosive Material		X	Sensitizer	X	
Flammable Material	X		Compressed Gas		X	Mutagen		X
Pyrophoric Material		X	Irritant	X		Reproductive Toxin		X
Explosive Material		X	Teratogen		X	Blood Toxin	X	
Unstable Material		X	Skin Hazard	X		Nervous System Toxin	X	
Water Reactive Material		X	Eye Hazard	X		Lung Toxin	X	
Oxidizer		X	Toxic Agent	X		Liver Toxin		X
Organic Peroxide		X	Highly Toxic Agent		X	Kidney Toxin	X	
TLV= 10 ppm mg/m3			PEL=10 ppm mg/m3			Chemical Listed as Carcinogen or Possible Carcinogen	Yes	X
							No	

SECTION 3. EMERGENCY RESPONSE DATA

Fire	Extinguishing Media	Water, Carbon Dioxide, foam or dry chemicals
	Special Procedures	Use air supplied rescue equipment. Cool exposed containers with water
	Unusual Hazards	Do not store near strong oxidants or open flame. Smoke from fire may be hazardous.
Exposure	First Aid Measures	Skin-wash with soap and water. Contact Physician. Eyes-flush with water. Inhalation-move to fresh air, artificial respiration if necessary.
	Effects of Exposure	Skin, eye, and respiratory irritation. Dizziness, headaches, nauses, and dermatitis.
Spills	Steps to be taken	Shut off sources of ignition. Shut off leak, if possible, without risk. Take up with sand or other non-combustible, absorbent material.
	Waste Disposal Method	Dispose of at an approved site, complying with all federal, state, and local regulations

SECTION 4. HEALTH HAZARD DATA

Hazardous Ingredients	PEL	TLV	%	CAS Number
Asphalt	5 mg/m^3	5 mg/m^3	45	64742-93-4
300/360 b.r. naphtha	500 ppm	100 ppm	31.5	8030-30-6
Asbestos	2 fibers per cc	2 fibers per cc	14	1332-21-4

Asbestos does not appear on MSDS, revised 6/97.

SECTION 5. SAFE USA

Protective Equipment Types	Eyes	Chemical type goggles or face shield
	Respiratory	Self-contained, positive-pressure
	Gloves	Yes. Impervious in nature
	Other	None
Ventilation		General Mechanical-Sufficient to maintain exposure levels below recommended TLV.
		Local Exhaust-Yes
Precautions	Handling & Storage	Stay up wind to avoid vapors. Avoid water contamination. Do not store near strong oxidants or flame.
	Other	Use good individual housekeeping and personal hygiene techniques.

SECTION 6. PHYSICAL AND CHEMICAL PROPERTIES (SOLVENT)

Boiling Pt. = 300-360°F	Vapor Density (Air = 1) 4+			Volatile Components
Vapor Press = 26 mmHg @100°F psi	pH N/A	Sp. Gr. = 1.044		Solvent = 33-36% v/v
Solubility in H_2O Negligible	Melting Point (°F) N/A			Evaporation Rate (Butyl Acetate = 1) 0.19
Appearance and Odor Black asphalt mastic. Hydrocarbon solvent odor.				

SECTION 7. PHYSICAL HAZARD DATA

Flammability	Lower = 0.5 %		Flash Point (min.) 100+ °F	°C
	Upper = 6.0 %		Method Used Pensky-Martens Closed Cup	
Stability	Stable	X	Conditions to Avoid	Do not store near strong oxidants or open flame.
	Unstable		Hazardous Decomp Products	H_2S released when heated. CO may be formed with incomplete combustion.
Hazardous Polymerization	May Occur		Conditions to Avoid	
	Will Not Occur	X	N/A	
Incompatibility	Materials to Avoid	Strong oxidants and open flames		

N/A = Not Applicable NDA = No Data Available < Less Than > Greater Than